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FAMILY OF HUMMING-BIRDS. *The Author, London.*  
1861.

THE SUPPLEMENT, Vol. VI, completed after the  
Author's death, by R. Bowdler Sharpe. *Sotheran,*  
*London.* 1887.

*Red morocco extra, gilt edges. Folio. 6 vols.*

Plates coloured by Gould.

Subscription copy.

(29.A.1.)















A MONOGRAPH

OF

THE TROCHILIDÆ,

OR

FAMILY OF HUMMING-BIRDS.

BY

JOHN GOULD, F.R.S.,

FLS., V.P. AND FZS., M.E.S., F.R.G.E.G.S., M.R.A.S., CORR. MEMB. OF THE ROYAL ACADEMY OF SCIENCES OF TURIN; OF THE SOC. OF THE MUSEUM  
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IN FIVE VOLUMES.

VOL. I.

L O N D O N :

PRINTED BY TAYLOR AND FRANCIS, RED LION COURT, FLEET STREET.

PUBLISHED BY THE AUTHOR, 26 CHARLOTTE STREET, BEDFORD SQUARE.

1861.







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TO

HER ROYAL HIGHNESS

THE CROWN PRINCESS OF PRUSSIA,

PRINCESS ROYAL OF ENGLAND,

THIS MONOGRAPH

OF

THE TROCHILIDÆ,

OR

FAMILY OF HUMMING-BIRDS,

IS, WITH PERMISSION,

*Dedicated,*

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MOST OBEDIENT AND FAITHFUL SERVANT,

JOHN GOULD.







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## P R E F A C E.

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THAT early impressions of the mind are vividly retained, while events of the day flit from our memory, must have been experienced by every one. How vivid, then, is my recollection of the first Humming-Bird which met my admiring gaze ! with what delight did I examine its tiny body and feast my eyes on its glittering plumage ! This early impression, I well remember, gradually increased into an earnest desire to attain a more intimate acquaintance with the lovely group of birds to which it pertained, and was still further strengthened when an opportunity was afforded me of inspecting the, at that time, unique collection of the *Trochilidæ* formed by the late Mr. George Loddiges, of Hackney. This gentleman and myself were imbued with a kindred spirit in the love we both entertained for this family of living gems. To describe the feeling which animated us with regard to them is impossible ; it can, in fact, only be realized by those who have made Natural History a study, and who pursue the investigation of its charming mysteries with ardour and delight. That our enthusiasm and excitement with regard to most things become lessened, if not deadened, by time, particularly when we have acquired what we vainly consider a complete knowledge of the subject, is, I fear, too often the case with most of us ; not so, however, I believe with those who take up the study of the Family of Humming-Birds. Certainly I can affirm that such is not the case with myself ; for the pleasure which I experience on seeing a Humming-Bird is as great at the present moment as when I first saw one. During the first twenty years of my acquaintance with these wonderful works of creation, my thoughts were often directed to them in the day, and my night dreams have not unfrequently carried me to their native forests in the distant country of America.

In passing through this world I have remarked that when inquirers of a strong will really set themselves to attain a definite object, they generally accomplish it ; and in my own case the time at length arrived when I was permitted to revel in the delight of seeing the Humming-Birds in a state of nature, and to observe their habits in the woods and among the great flowering trees of the United States of America and in Canada. For some time a single Humming-Bird was my



constant companion during days of toil by road and rail ; and I ultimately succeeded in bringing a living pair within the confines of the British Islands, and a single individual to London, where it lived for two days, when, from the want of proper food or the change of climate, it died.

Although so enthusiastically attached to the subject, I should not have formed a collection of the *Trochilidæ*, or attempted an account of their history, had not my late friend Mr. George Loddiges (whose many excellences are too universally known to need any comment from me) been prematurely removed from among us. Prior to his lamented death, whatever species I procured from my various correspondents were freely placed at his disposal ; and his collection was then unrivalled, and the pride of the owner as well as of his country, so far as a private collection could be considered of national importance. It was not until after Mr. Loddiges' decease that I determined upon forming the collection I myself possess, which now far surpasses every other, both in the number of species and examples. Ten years ago this collection was exhibited for a short time in the Gardens of the Zoological Society in the Regent's Park, and, I believe, afforded unmixed delight to the many thousands who visited those Gardens in the memorable year 1851. Many favourable notices of it appeared in the periodicals of the day ; and my friend Mr. Martin published a small popular work in express reference to it. During the period which has since elapsed I have been unceasing in my endeavours to obtain every species which has been discovered by the enterprising travellers of this country, of Germany, of France, and of America. It would be invidious were I to extol the exertions of one more than those of another, nor could I do so without committing injustice ; for the travellers of all these countries have shown equal intrepidity in their endeavours to bring to light the hidden treasures of the great primæval forests of the New World. Some of them, such as Azara, Spix, Bullock, DeLattre, Floresi, Dyson, Hoffmann, and Mathews (the discoverer of the wonderful *Loddigesia mirabilis*), are no longer among us : of those living who have paid especial attention to the Humming-Birds I may mention the names of Prince Maximilian of Wied, Waterton, Gosse, Warszewicz, Linden, Bridges, Jameson, Wallace, Bates, Darwin, Reeves, Hauxwell, Skinner, Bourcier, Sallé, Salvin, Fraser, Gundlach, Bryant, Montes de Oca, &c. It is to these men, living and dead, that science is indebted for a knowledge of so many of these "gems of creation ;" and it is by their exertions that such collections as Mr. Loddiges' and my own have been formed. I regret exceedingly that I have not seen so much of this lovely group of birds in a state of nature as I could have wished : the traveller and the historian are seldom united ; and in this instance it would have been impossible. The constant personal attention and care necessary for the production of such a work as 'A Monograph of the *Trochilidæ*' could only be given in a metropolis ; for in no other place could such a publication be accomplished without



a greatly increased expenditure both of time and money: it is only in capitals like London and Paris that undertakings of this nature can be carried out successfully; for nowhere else are the requisite talents and materials to be obtained.

I feel that I am greatly indebted to those who have honoured this work with their support for their kindness and the patience with which they have continued with me to its completion—the more especially as, owing to the discovery of so many new species since its commencement, it has extended far beyond its expected limits. I am also especially indebted to those persons connected with its production, by whose assistance I have been enabled to bring so great an undertaking to a satisfactory close. To my artist Mr. Richter, to Mr. Prince, and to Mr. Bayfield (all names connected with my former works), I owe many thanks. To the projectors and publisher of ‘Curtis’s Botanical Magazine’ I am likewise indebted for many hints and for permission to copy parts of some of their plates of the flowering plants of those districts of South America which are frequented by Humming-Birds. In case the merits of this work should be unknown to some of my readers, I mention that it is generally acknowledged its production reflects equal credit upon its Editors Sir William Jackson Hooker and Mr. Smith, the artist Mr. Fitch, and its publisher Mr. Lovell Reeve.

Numerous attempts had been made at various times to give something like a representation of the glittering hues with which this group of birds are adorned; but all had ended in disappointment, and the subject seemed so fraught with difficulty that I at first despaired of its accomplishment. I determined, however, to make the trial, and, after a series of lengthened, troublesome, and costly experiments, I have, I trust, partially, if not completely succeeded. Similar attempts were simultaneously carried on in America by W. M. L. Baily, Esq., who with the utmost kindness and liberality explained his process to me; and although I have not adopted it, I must in fairness admit that it is fully as successful as my own. I shall always entertain a lively remembrance of the pleasant day I spent with this gentleman in Philadelphia. It was in his company that I first saw a living Humming-Bird, in a garden which has become classic ground to all true Americans, from the pleasing associations connected with its former possessor, the great and good Bartram, and from its having been one of the haunts of the celebrated Wilson, than whom no one has written more pleasingly on the only species of this family which inhabits that part of North America, the *Trochilus Colubris*.

It now becomes my pleasing duty to place on record the very valuable assistance in the production of this work with which I have been favoured by the Directors of Public Museums and private



individuals. Of these the foremost on the list must be the names of M. Jules Bourcier, of Paris, and Thomas Reeves, Esq., of Rio de Janeiro. Both these gentlemen have made extensive collections of specimens, and had numerous drawings prepared for the express purpose of publishing works on the subject, all of which with the utmost liberality have been placed at my disposal. To M. Bourcier, than whom no one possesses a more intimate acquaintance with this group of birds, I am likewise indebted for much valuable information, which has been at all times rendered with the utmost willingness and promptitude. My thanks are also due to the Trustees and the Keepers of the Zoological Department of the British Museum; to the Director of the Museum of the Jardin des Plantes at Paris; to Dr. Peters, Director of the Royal Zoological Museum of Berlin; to George Ure Skinner, Esq., long resident in Guatemala; to that intrepid traveller M. Warszewicz, now Director of the Botanic Garden at Cracow, who, during his travels in South America, brought to light more new species of Humming-Birds than any other explorer; to my friends Sir William Jardine, Bart.; W. C. L. Martin, Esq.; T. C. Eyton, Esq.; Dr. Selater; Alfred Newton, Esq.; M. Edouard Verreaux, of Paris; G. N. Lawrence, Esq., of New York; and Dr. Baird, of Washington; to Edward Wilson, Esq., to Sigismund Rucker, Esq., F. Taylor, Esq., of Liverpool; William Tucker, Esq., of Trinidad; and to T. F. Erskine, Esq., for the readiness with which they have at all times favoured me with both information and the loan of specimens. To Miss Loddiges and her brother Mr. Conrad Loddiges, I am under considerable obligations for the facility of access they have always afforded me to the very valuable collection formed by their lamented father. Nor must the name of another valued friend—the late Prince Charles Lucien Bonaparte—be omitted from the list of those who took great interest in the present work, he having at all times rendered me that scientific assistance which his vast and varied talents so well enabled him to afford.

September 1, 1861.

## INTRODUCTION.

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THE questions have often been asked, whence is the term Humming-Bird derived, and why is the bird so called. I may state in reply that, owing to the rapid movement of the wings of most of the members of this group, but especially of the smaller species, a vibratory or humming sound is produced while the bird is in the air, which may be heard at the distance of several yards, and that it is from this circumstance that the trivial name by which these birds are known in England has arisen. In France they are recognized by the terms *Oiseau-mouche* and *Colibri*; in Germany their common appellation is *Kolibri*; by the Dutch they are called *Kolibrielje*; by the Spaniards *Pica flores* and *Tomino*; by the Portuguese *Tomeneco* and *Beija-flor*; in the neighbourhood of Xalapa they are known by the names of *Chupa-rosa* and *Chupa-myrtta*, Rose-sucker and Myrtle-sucker; by the Creoles of the Antilles and Guiana they are known by the names of *Murmures*, *Bourdons*, and *Frou-frous*. From the Mexicans, Peruvians, and other nations of South America they have received various appellations, such as *Ourissia*, *huitzitzil*, *tzitztototl*, *guanumbi*, *quinti* or *quintiut*, *quindé*, *visicilin*, *pigda*, and *courbiri*,—all terms of a metaphorical character, signifying “rays of the sun,” “tresses of the day-star,” “murmuring birds,” &c.

Linnaeus applied to the whole of the species known to him the generic appellation of *Trochilus* (a name given by the ancients to some fabulous little bird), whence is derived the family designation TROCHILIDÆ. By Brisson, a contemporary of Linnaeus, the terms *Polytmus* and *Mellisuga* were proposed; but with respect to some of the thirty-six species described by him, as well as by the older writers such as Seba, Marcgrave, Willughby, Ray, &c., it is extremely difficult, if not impossible, to determine what they really were. We may, however, fairly commence our investigations with a greater chance of accuracy from the date when the great Swedish naturalist commenced his labours. By him twenty-two species were enumerated in the twelfth edition of his ‘Systema Naturæ.’ In Gmelin’s, or the thirteenth edition, the list is increased to sixty-seven. Of these I have determined about two-thirds; the remainder must for ever continue involved in mystery, and their names be erased from our scientific works—the descriptions being extremely meagre, and the synonyms occasionally referring to figures of very different species. In some instances, even, the species are attributed to countries where Humming-Birds are never found; while in others, such as that of the Harlequin Humming-Bird, the characters are taken from a plate which must have been drawn from imagination and not from any real specimen. These are a few of the difficulties which a naturalist has to encounter when access to the types cannot be obtained. I think it necessary to make this statement



as a reason for not quoting all the names given by the older authors. Wherever they could be with certainty determined, they have been quoted under the species to which they are believed to refer. The numerous divisions which more modern writers have deemed it necessary to propose will be given in the proper place.

Latham, who added little or nothing to the previously recorded notices of this group of birds, enumerated sixty-five species in his 'Index Ornithologicus,' published in 1790, and ninety-five in the third volume of his 'General History of Birds,' which appeared in 1822. Of these about two-thirds are real species; the remainder cannot be determined, as they are so indefinitely described that it is impossible to ascertain whether they are species or not.

In 1802 the 'Oiseaux dorés,' the great French work of Audebert and Vieillot, was given to the world. In it, besides figures of all the Jacamars and Promerops then known, were included seventy plates of Humming-Birds. These plates represent species which were then rare, but are now extremely common, and which, although not so numerous as those contained in the later work of Latham, had the advantage of being illustrated in a manner which was intended to convey some idea of their brilliancy. In most instances the species may be recognized; in others they are doubtful. Independently of the illustrations above-mentioned, these authors attempted to explain the laws which produce the splendid colouring of certain parts of these beautiful birds, and have given a plate illustrative of their views on the subject.

In 1823 appeared the second part of the ornithological portion of the 'Tableau Encyclopédique et Méthodique des Trois Règnes de la Nature,' by Bonnaterre and Vieillot, with an enumeration of ninety-four species of Humming-Birds, but no additional information as to their habits and manners. A few years later (between 1829 and 1833) appeared M. Lesson's well-known works, the 'Histoire Naturelle des Oiseaux-mouches,' 'Histoire Naturelle des Colibris,' and 'Les Trochilidées,'—publications which added considerably to our previous knowledge of the group, although they enumerate no more than 110 species. How little progress, then, had been made towards an intimate acquaintance with these lovely birds between the date of the twelfth edition of the 'Systema Naturæ' and that of the last-named publications, a period of more than seventy years!

If the illustrious Humboldt paid no very marked attention to the *Trochilidæ*, he must have noticed many of the fine species lately brought to light; and it is therefore somewhat surprising that he should have been so remarkably silent respecting them when writing the 'Personal Narrative' of his travels in the new world. It is to him and to his associate Bonpland, however, that I consider we are indebted for our acquaintance with many of them; for the perusal of the interesting account of their enterprising travels has doubtless created a desire in others to follow in their footsteps. Thus succeeding travellers, who have not been slow to perceive how wonderfully different are the productions of the great Andean ranges from those of the other parts of South America, have ever been active in forming and transmitting to Europe collections in nearly every department of science; and no objects have been more assiduously sought for than the flying gems which constantly greeted them at every turn and must have been always before their eyes. Among the most eminent travellers who have succeeded Humboldt are D'Orbigny, Schomburgk, Tschudi, Castlenau, Burmeister, and others, who, with more recent but less-known explorers, have added so largely to our knowledge of the *Trochilidæ*. Both Frenchmen and Belgians have proceeded to South America to procure

supplies of these birds; and dealers from those countries have established themselves in some of the cities of that part of the world for the like purpose. From Sta. Fé de Bogota alone many thousands of skins are annually sent to London and Paris, and sold as ornaments for the drawing-room and for scientific purposes. The Indians readily learn the art of skinning and preserving, and, as a certain amount of emolument attends the collecting of these objects, they often traverse great distances for the purpose of procuring them; districts more than a hundred miles stretching away from each side of Bogota are strictly searched; and hence it is that from these places alone we receive not less than seventy species of this family of birds. In like manner the residents of many parts of Brazil employ their slaves in collecting, skinning, and preserving them for the European market; and many thousands are annually sent from Rio de Janeiro, Bahia, and Pernambuco. They also supply the inmates of the convents with many of the more richly coloured species for the manufacture of artificial-feather flowers. How numerous, then, must these birds be in their native wilds, and how wonderfully must they keep in check the peculiar kind of insect life upon which they principally feed! doubtless, one of the objects for which they were designed. After these few cursory remarks, I proceed to give a general history of the group, the range and distribution of the species, and such additional information as I have acquired during the course of my labours.

“The first mention which is made of the Humming-Birds,” says M. Lesson, “in the narratives of the adventurers who proceeded to America, not with the design of studying its natural productions, but for the discovery of gold, dates from 1558; and is to be found in ‘Les Singularités de la France Antarctique’ (Brazil) of André Thévet and Jean de Léry, companions of La Villegaignon, who attempted in 1555 to found a French colony there; but these superficial accounts would not have unfolded their natural history, had not the old naturalists who published their observations at the commencement of the seventeenth century taken care to make them better known; and we find some good accounts of them in the voluminous compilation of Nieremberg, in the collection of fragments from the great works of Hernandez or Fernandez, and in those of Piso. Ximenez, Acosta, Gomara, Marcgrave, Garcilasso, and Dutertre often mention these birds, but their remarks are so superficial that it would be of little use to quote them now. Towards the end of the same century Sir Hans Sloane, Catesby, Edwards, Brown, Father Labat, Plumier, Louis Feuillée, and Rochefort gave tolerably complete figures and descriptions of some of the species; but it was not until the commencement of the eighteenth century that we became better acquainted with their natural history.”

It will be seen that little was really known respecting the Humming-Birds even at the end of the career of the great Linnæus. From Captain Cook both Pennant and Linnæus became aware that a species was found as far north as Nootka Sound, while every voyager to the eastern shores of North America brought tidings of its representative in the *Trochilus Colubris*. Jamaica, St. Domingo, and the smaller islands of the West Indies furnished a fair quota of species inhabiting those countries; and correspondents were speedily established by Sloane, Brown, Edwards, and Catesby in Hispaniola, Demerara, and Brazil. Throughout all these regions the Humming-Birds, and indeed their other zoological productions, were then but partially, and only partially, known. The great primeval forests of Brazil, the vast palm-covered districts of the deltas of the Amazon and the Orinoco, the fertile flats and savannahs of Demerara, the luxuriant and beautiful region of Xalapa (the realm of perpetual spring) and other parts of Mexico, were literally untrodden ground by the ornithological collector. Up to this time the vast provinces of the New World had only been skirted; all within was virgin land, wherein even the explorer had scarcely placed a foot, and where the only human inhabitants were the wild children of nature—the Botacudos and other tribes of



South American Indians. If the country glanced at in the foregoing remarks provided the naturalists of the days of Linnæus with ample materials for study and investigation, how much greater would have been their amazement and delight had exploration made them acquainted with the hidden treasures of the great Andean ranges, which stretch along the entire country, from the Rocky Mountains on the north to near Cape Horn on the south. Along the whole line of this great backbone, as it were, of America, at remarkably short intervals, occur species of this family of birds of the greatest beauty and interest, which are not only specifically but generically distinct from each other. Whole groups of them, remarkable for their singularity, have become known to us from the inquiries and explorations of later travellers; and, abundant as the species may be towards the northern and southern portions of the great chain of mountains, they vastly increase as we approach the equator. These equatorial regions teem with species, and even genera, which are not found elsewhere. Between the snow-line of the summits of the towering volcanos and their bases, many zones of temperature occur, each of which has its own especial animal and vegetable life. The alpine region has its particular flora, accompanied by insects especially adapted to such situations; and attendant upon these are peculiar forms of Humming-Birds, which never descend to the hot valleys, and scarcely even to the cooler and more temperate paramos. Many of the highest cones of extinct and of existing volcanos have their own faunas and floras; even in the interior walls of ancient craters, wherever vegetation has gained a footing, some species of Humming-Birds have there, and there only, been as yet discovered. It is the exploration of such situations that has led to the acquisition of so many additional species of this family of birds, which now reach to more than 400 in number.

It might be thought by some persons that 400 species of birds so diminutive in size, and of one family, could scarcely be distinguished from each other; but any one who studies the subject will soon perceive that such is not the case. Even the females, which assimilate more closely to each other than the males, can be separated with perfect certainty; nay, even a tail-feather will be sufficient for a person well-versed in the subject to say to what genus and species the bird from which it has been taken belongs. I mention this fact to show that what we designate a species has really distinctive and constant characters; and in the whole of my experience, with many thousands of Humming-Birds passing through my hands, I have never observed an instance of any variation which would lead me to suppose that it was the result of a union of two species. I write this without bias, one way or the other, as to the question of the origin of species. I am desirous of representing nature in her wonderful ways as she presents herself to my attention at the close of my work, after a period of twelve years of incessant labour, and not less than twenty years of interesting study. I am, of course, here speaking of the special object of my own studies—the Humming-Birds.

It is somewhat remarkable that any persons living in the present enlightened age should persist in asserting that Humming-Birds are found in India and Africa. Yet there are many who believe that such is the case. Even in a work but recently published, it is stated that Humming-Birds and Toucans are both found in the last-mentioned country; and I was once brought into a rather stormy altercation with a gentleman who asserted that the Humming-Bird was found in England, and that he had seen it fly in Devonshire. Now the object seen in Devonshire was the insect called the Humming-Bird Moth, *Macroglossa stellarum*; and the birds supposed to belong to this family by residents and travellers in India and Africa are of a totally different group—the *Nectariniidæ* or Sun-Birds. These latter birds have no relationship to the *Trochilidæ*; they are not even representatives of them in the countries alluded to; and their only points of

resemblance consist in their diminutive size and the showy character of their plumage. Let it be understood, then, once for all, that the Humming-Birds are confined to America and its islands (that is, the West Indies in the Atlantic, and Chiloe and Juan Fernandez in the Pacific; none have as yet been found in the Galapagos). The *Selasphorus rufus* goes as far north as Sitka. Kotzebue informs us that it is found in summer as high as the sixty-first parallel on the Pacific coast; while, on the antarctic end of the continent, Captain King observed the *Eustephanus galeritus* flitting about among the Fuchsias of Tierra del Fuego in a snow-storm. Both these species, however, are migrants,—the northern bird retiring, as autumn approaches, to the more temperate climate of Mexico, while the other wends its way up to the warmer regions of Bolivia and Peru. The migration of these birds is, of course, performed at directly opposite periods. Both the *Selasphorus rufus* and the *Trochilus Colubris* spend the summer in high northern latitudes; but the former always proceeds along the western, and the latter along the eastern parts of the country: the *T. Colubris* even extends its range as far as the fifty-seventh parallel, where it was observed by Sir John Richardson. Although these and some other species pass over vast extents of country, I do not believe that they are capable of long-continued flights: that is, I question their power of crossing seas, or more than from one island to another; for although we know that the two birds above-mentioned pass over many degrees of latitude in their migrations, I believe that these journeys are performed in a series of comparatively short stages, and always by land, and that the whole of their movements are more or less influenced by the progress of the sun north or south as the case may be.

North America, then, may be said to have two Humming-Birds—a western and an eastern species. It is true that Audubon has mentioned two others in his great work (the *Lampornis Mango* and *Calypte Annæ*), and states that the former was found at Key West in East Florida. Since then, however, I believe no other example has been discovered there; and one can scarcely understand the occurrence of the bird in that part of America, since it is a native of countries and islands lying so much further south.

Leaving North America, and proceeding south, we begin to meet with several other species, which rarely extend their range to the north—viz. the *Calypte Annæ*, *C. Costæ*, *Selasphorus platycercus*, *Trochilus Alexandri*, and *Calothorax Calliope*. These birds are also migratory, but their range is much less extensive than that of the two species previously mentioned. As we advance in this direction, Humming-Birds become extremely numerous, and, as regards both genera and species, continue to increase in the more southern country of Guatemala, where every variety of climate is to be found. The forest-clad mountains of Vera Paz appear to afford a winter retreat to many of the northern species, as the regions contiguous to the Atlas-range in Africa do to the numerous little warblers of this country and the continent of Europe. Besides these migrants, Guatemala, Honduras, and Costa Rica have species which are either stationary, or merely change their quarters in accordance with the flowering-season of the trees on which they seek their food, moving east and west or *vice versâ* according to circumstances. The countries further south, or those lying between Guatemala and Panama, appear to have a bird-fauna almost peculiar to themselves; for it is seldom that the species inhabiting Costa Rica and Veragua extend their range to the northward, neither are they often found in the more southern country of New Granada.

It is in the last-mentioned country, New Granada, that some of the finest of the Trochilidæ are found,—its towering mountains having species peculiar to themselves, while its extensive paramos are tenanted by forms not found elsewhere. On the principal ranges of the Andes, species exist which do not occur on the



lower elevations situated more to the eastward. These ranges are the sources of numerous rivers, some of which have a northerly course, such as the Atrato, Cauca, and the great Magdalena, which debouch into the Caribbean Sea, and the river Zulia, which empties itself into the Lake of Maracaybo. Some of the very finest species yet discovered were collected near the town of Pamplona, which is situated on the banks of the last-mentioned river. The country round Antioquia, situated on the lower, and Popayan on the upper part of the Cauca, appear also to be very rich in natural productions, and particularly so in Humming-Birds. It is, however, on the paramos which surround Bogota, and on the luxuriantly-clad sides of the valleys through which flows the main stream of the Magdalena, that the greatest number of species have been discovered. Bogota, the capital of this district, has for a long time been the centre whence collections have been transmitted to Europe and the United States. The Indians have been initiated into the modes of preparing these lovely objects; and as gain and excitement have thus gone hand in hand, this part of America may be said to have been thoroughly ransacked, and I expect that but few novelties remain to be discovered therein. Now as most of the productions that have yet reached us from Antioquia and Pamplona, two districts lying in about the same parallel of latitude on either side the great valley of the Magdalena, are quite distinct and different from those of Bogota, we may safely infer that, if they were as closely searched, many new species would be found. The country of the Caraccas and Cumana have Humming-Birds which partake less of the characters of the mountain species, and assimilate more closely to those of the Guianas and Northern Brazil. It will be seen, I think, from what I have here said, that the species of Humming-Birds increase in numbers as we proceed towards the equator; that most of them are confined to countries having peculiar physical characters; and that those of New Granada differ considerably from the Humming-Birds of Veragua, Costa Rica, and Guatemala. I have observed an equally marked difference in the species which inhabit the high lands giving rise to the rivers which run eastward; I mean the many tributaries of the Napo, the Caqueta or Japura, and the Amazon.

From the eastern side of Chimborazo flow many streams which ultimately find their way into the Amazon; and however numerous the species found in the elevated districts of New Granada may be, I believe that when the dense and luxuriant forests bordering these well-watered lands are fully investigated, the species inhabiting them will be found far to exceed in number those of every other district. Even the snowy Chimborazo may be said to be inhabited by Humming-birds: certain it is that the *Oreotrochilus Chimborazo* lives upon it just below the line of perpetual congelation, some of my specimens of this bird killed by M. Bourcier bearing on the attached labels an elevation of 16,000 feet; and Mr. Fraser, I believe, killed others in an equally elevated region. Here, then, is a bird which encounters the cold blasts of these lofty situations with impunity, dwelling in a world of almost perpetual sleet, hail, and rain, and there feeding upon the insects which resort to the *Chuquiraga insignis* and other flowering plants peculiar to the situation. These truly alpine birds have always a great charm with me; and as the species just mentioned is especially beautiful, it is of course a great favourite. Besides Chimborazo, there exist many other cones of but little less elevation, such as Pichincha, Cotopaxi, and Cayambe, which, strange to say, are reported to be frequented by species peculiar to each; and if this be the case, how many summits as yet untrodden may reveal forms at present unknown to us? Now what I have said with regard to the gradual increase of Humming-Bird life from the north to the equator may be equally said of their increase towards the same line from the south. The species there found, although quite different from those of the north, perform precisely the same functions, are subject to the same migratory movements, &c.

To the southward of the equator, however, the species appear to be far less numerous. And it could not be expected but that such would be the case when we consider the particular character of the country,—the dry and sterile plains of Peru, the extensive pampas of La Plata, &c., being all unsuited to insect and therefore to Humming-Bird life, and a diminution in their numbers the natural result. But this paucity in numbers would seem to be compensated for, by the beauty of the individuals. Peru and Bolivia are the cradles of the splendid comet-tailed species of the genus *Cometes*, the *Lesbiæ*, *Diphlogænæ*, the delicate birds known as *Thaumasturæ*, &c. These countries produce also the largest Humming-Bird yet known, the *Patagona gigas*, which with an *Oreotrochilus* and a *Eustephanus* are all the species known to me from the lengthened country of Chili. The little island called Chiloe, characterized by great humidity, is inhabited by the common Chilian species last mentioned; while the celebrated island of Juan Fernandez, over 300 miles from the mainland, is tenanted by three kinds, of which two are so distinct from all others known, that they cannot for a moment be confounded with any of them. The three species, in fact, which people this solitary spot in the wide Pacific are very different from each other; and I may mention that nothing like a cross or intermixture has ever been observed, an event that might have been expected to occur here, if ever it does among animals living in a state of nature. Strange to say, these beautiful creatures are almost the only examples of bird life existing on this remarkable island. The knowledge of the existence of these lovely flying gems gives an additional zest to the interest attached to the scene of the principal events in Defoe's charming tale.

In the foregoing pages I have glanced at the species of Humming-Birds inhabiting the great range of mountains running north and south through many degrees of latitude on both sides of the equator. Whole genera of the Trochilidæ are found there, and there alone. In the high lands of Mexico, among others we find the peculiar genera *Delatiria*, *Selasphorus*, and *Calypte*. On crossing the ribbon-like strip of land called the Isthmus of Panama, we enter upon a region of high lands bearing the genera *Oxygogon*, *Lafresnaya*, *Bourcieria*, *Doryfera*, *Helianthea*, *Helangelus*, *Eriocnemis*, *Lesbia*, *Cynanthus*, *Aglæactis*, *Metallura*, *Ramphomicron*, and many others, none of which are found in the less-elevated countries of Brazil, the Guianas, or the West Indian Islands. It is true that these countries, particularly Brazil, possess forms of Humming-Birds which are now and then feebly represented in the Andes; but these cases are quite exceptional. When we leave the Andes we bid adieu to the finest, the largest, and the most gorgeously attired species. Other beautiful kinds do here and there exist in Brazil, such as the *Chrysolampis moschitus*, the *Topaza Pella*, and the *Lophornithes*; but the greater number are comparatively small and inconspicuous. Of the members of the genus *Phaëthornis*, a group of Humming-Birds, popularly known by the name of Hermits, from their frequenting the darkest and most retired parts of the forest, three-fourths are natives of Brazil. The great forest-covered delta of the Amazon, where palms are numerous, seems to be particularly unfavourable to the Trochilidæ, since from Para to Ega there are scarcely ten species of the family to be met with.

In this cursory glance at the distribution of this family of Birds, those frequenting the West Indian Islands have yet to be noticed; and here not only do we find some peculiar to those islands as a whole, but in each of them, with but very few exceptions, there are species and even genera which are not found in the Andes, the other islands, or the more contiguous flat parts of the South American Continent. Cuba has at least three, one of which is a most lovely little bird. The principal island of the Bahaman group is in like manner favoured with a charming *Calothorax*, which Dr. Bryant tells us flies in great numbers round the town of Nassau; yet the bird does not, I believe, inhabit any of the other islands or the mainland.



Jamaica possesses three, which are all quite distinct, and so widely different from every other, that it is a perfect mystery to the naturalist how they first obtained a footing there. Nothing like interbreeding between two species appears to occur in this island; if such were the case, we could not but be aware of the fact, since we have not only been for many years in the habit of receiving hundreds of birds from Jamaica, but this island has had the advantage of a naturalist, Mr. Gosse, who has most closely observed the birds resident there. St. Domingo has two species, differing from those of Jamaica. This law with respect to the Humming-Bird inhabitants of the West Indian and Leeward Islands, is equally carried out in the necklace-like string of the Windwards; but when we arrive at the island of Trinidad, the species become much more numerous and partake of the character of those which inhabit the mainland—the opposite shores of Venezuela.

It may be asked, what is our present knowledge of the existing species of Humming-Birds, and if there may not be others to be discovered in the great primeval forests of the western and other parts of the vast continent of the new world. My reply is that, in all probability, many more than are known to us do exist, and that a very lengthened period must elapse before we shall acquire anything like a perfect knowledge of the group. Whatever I may have done towards the elucidation of the subject, I must only be regarded as a pioneer for those who, in future ages, will render our acquaintance with this family of birds so much more complete than it is at the present time.

The regions of South America whose productions are least known are Costa Rica, Veragua, Panama, the sea-board between Carthagena and Guayaquil, the forests of La Paz and other parts of Bolivia, the whole of the eastern slopes of the Andes bordering Peru and Ecuador, and the western portion of Brazil. All these countries will doubtless furnish new kinds of Humming-Birds when the explorer shall extend his researches into their unknown recesses. We may feel fully convinced that such will be the case from the circumstance of single individuals in a youthful or imperfect state, which we cannot identify as belonging to any known species, occasionally occurring in the great collections sent from time to time to Europe. My own collection contains several examples of this kind, which will doubtless at some future day prove to belong to undescribed species. For more than twenty long years have I been sending the most earnest entreaties, accompanied with drawings, to my correspondents in Peru and Ecuador for additional examples of that truly wonderful bird the *Loddigesia mirabilis*. These entreaties have been backed by the offers of large sums of money to any person who would procure them; but up to the present moment no second example has been obtained. Probably the single individual killed by Mr. Matthews in the neighbourhood of Chachapoyas was one which had accidentally strayed beyond the area in which the species usually dwells, and which has not yet been discovered. That it may be a nocturnal bird has sometimes suggested itself to my mind, and that this may be the reason why it has not since been seen. Those of my readers who are not acquainted with this most wonderful member of the Trochilidæ will do well to refer to the plate, in which a correct representation of it is given by the masterly hand of Mr. Richter.

The preceding remarks must, I think, have given the reader a general idea of the countries inhabited by the members of the great family of Humming-Birds; it now becomes necessary to speak of their peculiar structure, and the place they appear to occupy in the Class AVES. By systematists they have been bandied about from one group to another: by some they have been associated with the Sun-Birds (*Nectariniæ*); by others with the *Cypselinæ*, *Piciniæ*, *Sittinæ*, *Certhiinæ*, &c.

In Brisson's arrangement, published in 1760, they constitute with the Creepers his twelfth Order. By Linnæus in 1766, and Latham in 1790, they were placed in the class *Picæ*, together with the Creepers, Hoopoes, &c. In like manner they are associated with the same birds in the fourteenth order of Lacépède's arrangement, published in 1799. In Duméril's classification, proposed in 1806, they form part of his second Order, Passerine Birds, and are associated with Kingfishers, Todies, Nuthatches, Bee-Eaters, Creepers, &c. They form a distinct family of the second Order, *Ambulatores*; in the arrangement of Illiger published in 1811. They also constitute a distinct family by themselves of the Tenuirostral Division of the order *Passeres* in Cuvier's system of 1817. By Vieillot, whose arrangement was published about the same time, they form part of the twenty-second family *Sylvicolæ*, and are associated with Creepers, Sun-Birds, and Honey-Eaters. By Temminck, in the second edition of his 'Manuel d'Ornithologie,' published in 1820, they were placed, together with the Creepers, Sun-Birds, Hoopoes, &c., in his sixth Order, *Anisodactyli*. In De Blainville's arrangement, which appeared in the years 1815, 1821, and 1822, they form a separate family of the *Saltatores*, with the Kingfishers preceding, and the Crows following them. Vigors, in 1825, made them a distinct family of his second Order, *Insectores*,—the preceding family being composed of the Sun-Birds, and the succeeding one of the *Promeropidæ*. Latreille in the same year placed them in the fourth family, *Tenuirostres*, of the second Order or Passerine Birds, along with the Hoopoes, Promerops, Sun-Birds, &c. Lesson, in 1828, made them the eighth family of the *Insectores*, and associated them with the Sun-Birds, Creepers, &c. By Boié they were divided, in the 'Isis' for 1831, into eleven genera, viz. *Bellatrix*, *Calliohlox*, *Glaucis*, *Anthracorax*, *Heliactin*, *Hylocharis*, *Basilinna*, *Chrysolampis*, *Heliothrix*, *Smaragdites*, and *Eulampis*. Swainson, in 1837, constituted them the third family of the *Tenuirostres*, with the Sun-Birds preceding, and the Promeropidæ and Hoopoes succeeding them. In Mr. G. R. Gray's 'List of the Genera of Birds,' published in 1841, and in his great work 'On the Genera of Birds,' completed in 1850, they form the third family of the *Tenuirostres*. In the 'Conspectus Systematis Ornithologiæ' of Prince Charles Lucien Bonaparte, given to the world a few years before his lamented death, they form Stirps 17 *suspensi*, of his second Order *PASSERES*; and Tribe *Volucres*, with the Hoopoes and Promerops placed before, and the Swifts and Swallows after them. In his 'Conspectus Generum Avium' they form the eleventh family of the *Insectores*, with the Swifts preceding them, and are succeeded by the *Phytotomidæ* or Plant-Cutters. In his "Conspectus Trochilorum," published in the 'Revue et Magasin de Zoologie' for May, 1854, they form the seventy-second family of his Passerine Birds. In Dr. Reichenbach's arrangement, in Cabanis's 'Journal für Ornithologie' for 1853, they are fancifully divided into groups of Fairies, Elfs, Gnomes, Sylphs, &c.; and in his 'Trochilinarum Enumeratio' he places these birds between the true Creepers on the one hand, and the Hoopoes on the other. By Cabanis, the latest writer on the subject, they are placed with the Swifts and Goatsuckers, in his 3rd Order, *Strisores*, and Tribe *Macrochires*.

Ornithologists of the present day consider them to be more intimately allied to the true Swifts than to any other group of birds. This view of the subject is supported by the fact of the Humming-Birds, like the Swifts, having most ample wings, and a bony structure very closely assimilating; and this alliance is still further exemplified in some parts of their nidification, the number and colour of their eggs, &c. If is not to be expected that, with this subject before me for so many years, I should have been inattentive to the consideration of the place these birds should occupy in our attempts at a natural arrangement; and while I admit that they are somewhat allied to the Swifts, they are so essentially distinct from these and all other birds, that they might be separated into a distinct Order with quite as much (if not greater) propriety as the Pigeons when considered in relation to the Gallinaceous Birds. They have certain characters, dispo-



sitions, and modes of life which are not to be noticed in any other group of birds : their cylindrical bills, double-tubed tongues, enormously developed sternums, and corresponding pectoral muscles, rigid primaries (the first of which is the longest), and their diminutive feet separate them from all others. In the Swifts and Fissirostral birds generally, the sexes are alike in outward appearance ; in the Humming-Birds they are in nearly every instance totally different in their colouring ; in the former the young assume the livery of the adult before they leave the nest, while the contrary is the case with the Humming-Birds. How different, too, is the texture of the luminous feathers with which they are clothed ; and vastly diversified in form as the tail is in the various genera, the number of feathers in the whole of them is invariably ten. In their disposition they are unlike birds, and approach more nearly to insects. Many of the species fearlessly approach almost within reach of the hand ; and if they enter an open window, which curiosity may lead them to do, they may be chased and battled with round the apartment until they fall exhausted ; and if then taken up by the hand, they almost immediately feed upon any sweet, or pump up any fluid, that may be offered them, without betraying either fear or resentment at their previous treatment. A *Trochilus Colubris*, captured for me by some friends at Washington (Baron Osten Sacken, Mr. Odo Russell, and his brother Mr. Arthur Russell), immediately afterwards partook of some saccharine food that was presented to it, and in two hours it pumped the fluid out of a little bottle whenever I offered it ; and in this way it lived with me a constant companion for several days, travelling in a little thin gauzy bag distended by a slender piece of whalebone and suspended to a button of my coat. It was only necessary for me to take the little bottle from my pocket to induce it to thrust its spiny bill through the gauze, protrude its lengthened tongue down the neck of the bottle, and pump up the fluid until it was satiated ; it would then retire to the bottom of its little home, preen its wing- and tail-feathers, and seem quite content.

The specimens I brought alive to this country were as docile and fearless as a great moth or any other insect would be under similar treatment. The little cage in which they lived was twelve inches long, by seven inches wide, and eight inches high. In this was placed a diminutive twig of a tree, and, suspended to the side, a glass phial which I daily supplied with saccharine matter in the form of sugar or honey and water, with the addition of the yolk of an unboiled egg. Upon this food they appeared to thrive and be happy during the voyage along the sea-board of America and across the Atlantic, until they arrived within the influence of the climate of Europe. Off the western part of Ireland symptoms of drooping unmistakeably exhibited themselves ; but, although they never fully rallied, I, as before stated, succeeded in bringing one of them alive to London, where it died on the second day after its arrival at my house. The vessel in which I made the passage took a northerly course, which carried us over the banks of Newfoundland ; and although the cold was rather severe during part of the time, the only effect it appeared to have upon my little pets was to induce a kind of torpidity, from which, however, they were readily aroused by placing them in the sunshine, or in some warm situation, such as before a fire, in the bosom, &c. I do assure my readers that I have seen these birds cold and stiff, and to all appearance dead, and that from this state they were readily restored by a little attention and removal into light and heat, when they would “perk up,” flutter their little wings, and feast away upon their usual food as if in the best state of health.

How wonderful must be the mechanism which sets in motion and sustains for so lengthened a time the vibratory movements of a Humming-Bird’s wings ! To me their action appeared unlike anything of the kind I had ever seen before, and strongly reminded me of a piece of machinery acted upon by a powerful spring. I was particularly struck by this peculiarity in the flight, as it was exactly the opposite of what I

expected. The bird does not usually glide through the air with the quick darting flight of a Swallow or Swift, but continues tremulously moving its wings while passing from flower to flower, or when taking a more distant flight over a high tree or across a river. When poised before any object, this action is so rapidly performed that it is impossible for the eye to follow each stroke, and a hazy semicircle of indistinctness on each side of the bird is all that is perceptible. "The wind produced by the wings of these little birds," says Mr. Salvin, "appears to be very considerable; for I noticed that while an example of *Cyanomyia cyanocephala* which had flown into the room was hovering over a large piece of wool, the entire surface of the wool was violently agitated." Although many short intermissions of rest are taken during the day, the bird may be said to live in air—an element in which it performs every kind of evolution with the utmost ease, frequently rising perpendicularly, flying backward, pirouetting or dancing off, as it were, from place to place, or from one part of a tree to another, sometimes descending, at others ascending; it often mounts up above the towering trees, and then shoots off like a little meteor at a right angle; at other times it quietly buzzes away among the little flowers near the ground; at one moment it is poised over a diminutive weed, at the next it is seen at a distance of forty yards, whither it has vanished with the quickness of thought. During the heat of the day the shady retreats beneath the trees are very frequently visited; in the morning and evening the sunny banks, the verandahs, and other exposed situations are more frequently resorted to.

The foregoing remarks are from personal observation of the habits of *Trochilus Colubris*; and I have been informed by Mr. Salvin and others that a similar action characterizes most of the species. I believe, however, that those members of the Trochilidæ which are furnished with more ample wings, such as the species of the genera *Aglæactis*, *Ramphomicron*, *Pterophanes*, and *Patagona*, have a very different mode of flight, move their wings with diminished rapidity, and pass much more slowly through the air. Mr. Darwin, when speaking of the *Patagona gigas*, says, "Like others of the family, it moves from place to place with a rapidity which may be compared to that of *Syrphus* among Diptera, and *Sphinx* among Moths; but whilst hovering over a flower it flaps its wings with a very slow and powerful movement, totally different from that vibratory one, common to most of the species, which produces the humming noise. I never saw any other bird, where the force of its wings appeared (as in a butterfly) so powerful in proportion to the weight of its body. When hovering by a flower, its tail is constantly expanded and shut like a fan, the body being kept in a nearly vertical position. This action appears to steady and support the bird, between the slow movements of its wings."

In the intervals of flight, I believe that they not only rest in the ordinary way, but even pass some time in sleep; at least I found that this was the case with my living birds, and that from this state of partial torpor they were not easily aroused. In the morning and evening they were far more animated than at any other period of the day; and they would even perform their buzzing evolutions round their cage, and sip from their little bottle in the night-time, if a light was brought into the room. They usually sat in a moping position, with the bill in a line with the body, or slightly elevated, after the manner of the Kingfishers. I never saw them hang by their feet and sleep with their heads downwards—a position which I have been informed is sometimes assumed by Humming-Birds.

When we have compared the wings of *Calliphlox amethystinus* with those of *Patagona gigas*, we have noticed the two extremes of development in these organs; but many intermediate forms exist, and each modification has doubtless an influence on the mode and power of flight. I cannot leave the subject of the



wings without alluding to the extraordinary development of the shafts of the primaries in the *Campylopteri*. The great dilatation of these feathers would lead one to suppose that they have an influence on the aerial movements of the birds; but, strange to say, this remarkable feature only occurs in the males; the females being entirely destitute of it. It might naturally be supposed that such a modification of so important an organ must be formed with an especial object. What, then, can be the particular use of the broad dilated shafts of these singularly and apparently awkwardly shaped wings? Generally the primaries and secondaries are of a sombre and uniform hue, while the shoulders or wing-coverts, in most instances, are of the same colour as the other parts of the body. There are, however, a few, but a very few exceptions to the rule; and I may mention the *Eulampis jugularis* and *Pterophanes Temmincki* as instances in point: both these birds have luminous wings, and must form very striking objects during flight; and, as I believe colour is seldom given without the intention of its being exhibited, there is doubtless something peculiar in the economy of these birds. The primaries and secondaries are in some instances stiff and rigid, while in others they are soft and yielding; some are broad, others narrow; they are always the same in number; and the first quill is constantly the longest, except in *Aithurus polytmus*, where the second exceeds the first in length.

When we turn to the bill, we find this organ to be greatly diversified in form, and that each of these variations appears to be specially adapted for some given purpose; indeed, I have never seen the law of adaptation more beautifully exemplified than in the multiplied forms exhibited in the bills of the members of the various genera of this family of birds. A certain generic character runs through the whole of them: the gape in all cases is very small; and whether the bill be curved or straight, the upper mandible overlaps the under one on both sides, and thus forms an admirable protection for the delicate double-tubed tongue. If we examine the extraordinarily lengthened bill of *Docimastes ensiferus* and the short feeble bill of the *Lesbia Gouldi*, we see the extremes as regards the length of this organ; and we are not less astonished at the functions they are both intended to perform. The bill of the *D. ensifer*, which is more than five inches long, and which contains a tongue capable of being protruded nearly as far beyond its tip, is most admirably fitted for the exploration of the lengthened and pendent corollas of the *Brugmansia*; while the short-billed *Lesbia* cling to the upper portion of those flowers, pierce their bases, and with the delicate feelers at the extremities of the tongue, readily secure the insects which there abound. I have been assured by M. Bourcier that this is really a practice of the bird, and that it frequently resorts to this device for the purpose of gaining its insect food; but I suspect that, besides exploring the stalwart *Brugmansia*, a more delicate flora is the object for which its bill is especially formed. In no part of America are there so many tubular-flowered plants as among the Andes; and the greater number of the Humming-Birds found there have straight and lengthened bills, such as the members of the genera *Helianthea*, *Bourcieria*, *Cæligena*, etc. The arched bills of the *Phaethornithes* are admirably adapted for securing the insects which resort to the leaves of trees, and upon which these birds are said to exist. But how much are we astonished when we examine the bill of *Eutoxeres*! and find this organ curved downwards beyond the extent of a semicircle, a form beautifully adapted for exploring the scale-covered stems of the larger palms.

Let us turn to another genus of this group—*Grypus*. Here the bill is not only armed with a strong hook at the end of the mandibles, but with a row of numerous and thickly set teeth. The *G. navius* is said to frequent the borders of the great forests, and to gain its food from among the interstices of the bark of the palm trees. Both this bird and the *Eutoxeres*, as well as the *Phaethornithes*, are said (and, I believe, with truth) to feed principally upon spiders; and we know that these are the food of the *Grypus*.

All the members of the genus *Ramphomicron* are said to feed on insects which inhabit the alpine Floræ; and their bill is well suited to the capture of the minute insects found in those elevated regions. In some instances the bill is perfectly wedge-shaped, as in *Heliothrix*; while in others it suddenly turns upwards, as in *Acocettula*. These forms are also adapted for some special purpose, of which, however, at present we are ignorant. Besides these, there are others whose bills approach somewhat to the form of the Flycatchers, as the *Aithurus*. This bird, we know, frequently seizes insects on the wing; and so doubtless do many of the others. It will have been seen that all these forms of bill are well suited for the capture of insects; and, as might be supposed, insects constitute the principal food of the Humming-Bird; but that liquid honey, the pollen, and other saccharine parts of flowers are also partaken of, is evident from the double tubular tongue with which all the species are provided. Besides this, they readily and greedily accept this kind of food when offered to them in a state of captivity, or when the corollas of a bouquet of flowers placed in a window are filled with sugar to entice them to approach; and from my own experience I know that they have been kept in captivity for several months upon this kind of food.

Connected intimately with the mode of flight is the form and structure of the tail; and in no group of birds is this organ more varied; in some species it is four times the length of the body, in others it is so extremely short as to be entirely hidden by the coverts. As cases in point I may mention *Lesbia Amaryllis* and *Calothorax micrurus*. Every Humming-Bird, however, has ten tail-feathers, and no more. I am aware that this number is not apparent in some of the smaller fork-tailed species, the two centre-feathers being so exceedingly minute as to be almost obsolete; but if a careful examination be made, that number will be found. I may instance *Thaumastura Coræ*, *Doricha enicura*, and *Myrtis Fanniæ*.

The tail appears to be, and doubtless is, a very important organ in all the aerial movements of the Trochilidæ; and accordingly we find very great variations in its form among the many different genera of which the family is composed. In *Cometes* and *Lesbia*, the forked character is carried to its maximum, while its minimum is seen in *Calothorax*, *Acestrura*, and the allied groups. The tails of all the members of the two former and many other genera are of this form; while in others it is only seen in a single species of a group, all the other members of which have rounded, square, or cuneate tails. As a case in point I may cite *Eupetomena macroura*, among the *Campylopteri*, which may be regarded as the aerial type of its own particular group. Next to this we may notice the species with feathers terminating in spatules, such as *Loddigesia*, *Spathura*, etc. I was informed by the late Mr. Dyson that the flight of these birds presents a marked difference from that of other Humming-Birds, and that their appearance in the air is most singular,—the tail being not only constantly opened and shut, but the spatules always in motion, particularly when the bird is poising over a flower; and if this be really true, what an extraordinary appearance must the *Loddigesia mirabilis* present during its evolutions! But we cannot attempt to describe it; the discovery of a second example, and the peculiarity of its flight, must be left for future historians to make known to us.

In some few instances, such as *Juliamyia typica* and *Sphenoproctus Pampa*, the tails are cuneate; but this form is quite exceptional, if we exclude the *Phaethornithes* and *Eutoxeres*, in which this is the prevailing form. Besides the groups with forked or cuneate tails, there are others in which this organ is square or rounded, as in the *Florisugæ* and *Metalluræ*. The reverse of the spatulate form occurs in some species, such as the members of the genus *Gouldia*, in which the tip of the outer tail-feathers terminates in thread-like filaments. The citation of one more will be sufficient to show how widely different is the form of this organ among



the various genera. The outer feathers of the *Oreotrochili* are narrow, rigid, and turned inwards: this calliper-like form one might suppose would assist, in combination with the lengthened hind toe and claw, in supporting the bird on the sides of rocks; and we find that this is really the case; for Mr. Fraser informs me that he has seen several of the *Oreotrochilus Pichincha* clinging, half-benumbed with cold, on a ledge of rocks during one of the frequent snow-storms which occur on Pichincha. Quinarians would pronounce this to be the scansorial type among Humming-Birds. Now I think we may fairly infer that many of the other structures above alluded to are equally adapted for some peculiar purpose; yet there must be exceptions to this hypothesis, since the structure of the caudal feathers is in many instances totally different in the two sexes of the same species.

Nothing has yet been said respecting the legs and feet. Diminutive as they are, they will be found to be very diversified. In some instances the tarsi are bare, in others they are thickly clothed, as in the *Eriocnemides*; in some the toes are very diminutive, and are furnished with equally small, rounded nails; in others all the toes, particularly the hinder one, are greatly developed and armed with long, curved, and extremely sharp, spine-like claws. This latter form is admirably adapted for clinging to the petals of flowers, a habit common to many members of the family, which not only settle upon, but thrust their spiny bills through the bell-shaped flowers. The power these little birds possess of clinging to the branches is very remarkable; they hang on with their little feet and hooked claws like bats, with such pertinacity that I was often fearful of dislocating the legs of my living birds when attempting to remove them from their perch.

I may mention here, although somewhat out of place, that the skins of *Pterophanes Temmincki* have a strong musky smell, very similar to that exhaled by the Petrels. I consider this merely a coincidence; for although I am aware that many species of Humming-Birds fly close to the surface of the water, they are merely hawking for insects among the aquatic plants peculiar to such situations.

It is the great diversity of forms in this family of birds which renders the study of them so very interesting. If these little objects were magnified to the size of Eagles, their structural differences would stand out in very bold relief, and the many marked generic distinctions they present would be far more clearly perceptible.

The preceding remarks have reference to such points of structure as may be considered to have an influence on the well-being of the birds. I shall now say a few words on those parts of the plumage which apparently are given for the purpose of ornament only:—the crests of *Cephalepis* and *Orthorhynchus*; the beards of *Ramphomicron* and *Oxygogon*; the ear-tufts of *Petasophora* and *Heliothrix*; the elegant appendages to the neck of the *Lophornithes*; the singular plume-like under tail-coverts of *Chalybura*, which in their structure and snowy whiteness strongly remind one of the corresponding feathers of the Marabou Stork, &c.

The members of most of the genera have certain parts of their plumage fantastically decorated; and in many instances most resplendent in colour. My own opinion is, that this gorgeous colouring of the Humming-Birds has been given for the mere purpose of ornament, and for no other purpose of special adaptation in their mode of life—in other words, that ornament and beauty merely as such was the end proposed—especially when we remember that the plumage of Humming-Birds seems to follow a general rule

in the subordination and contrast with which the colours are arranged. These extraordinary developments are nearly always confined to the male, and are, doubtless, bestowed upon these little gems as a gorgeous train is given to the Peacock, beautiful markings to the Polyplectron, &c. I know of no others but the two species of the genus *Cephalapis* in which a single feather is made to serve the purpose of ornament. In all other instances the feathers are disposed in pairs, or in equal number on either side of the head or body, as the case may be; but in both these species the crest terminates in a single plume, which greatly adds to the elegance of the slender topping. How splendid are the spangles which deck the neck-plumes of the *Lophornithes*! and how well do the blue ear-tufts of the *Petasophoræ* harmonize with the surrounding green of the neck! The genera *Oxygogon* and *Ramphomicron* may be cited as singular instances of ornamentation; for they are both bearded and crested. Independently of these extra-developed portions of the plumage, certain parts of the body are gorgeously coloured; and here, again, some curious features are observable. In very many instances the crowns are truly resplendent, as in *Heliodoxa*; while in *Helianthea* the forehead only is decorated, with a star brighter than Venus, the queen of planets.

All the members of the genus *Helangelus* are remarkable for their beautiful gorgets, succeeded by a crescent of white separating it from the green of the under-surface. Some species of the *Eriocnemides*, beside their thickly clothed tarsi, have rich and luminous upper tail-coverts; while others, such as the *Eriocnemis Alinæ*, have the under tail-coverts unsurpassingly brilliant and beautiful. The members of the genus *Augastes* are conspicuous for the shining, metal-like masks with which their faces are adorned; while, differing from all these, the *Agleactines* have the lower part of their backs clothed in armour-like feathers, the brilliancy of which must be seen to be understood, but which, strange to say, is only apparent when viewed from behind; for if looked at in the direction of the feather, none of these hues are perceptible. Many more instances besides these might be mentioned; but a reference to the plates on which they are represented, or, still better, the birds themselves, will give a more correct idea of these remarkable colourings than can be conveyed by any description.

Before leaving the subject of extra development, I may mention that I often find it carried to a greater extent in some one species of a genus than in the others. I will give an example of what I here intend, by reference to what is observable in another family of birds, the *Trogonidæ*. Here the extra development of the upper tail-coverts which occurs in members of the genus *Pharomacrus* commences in the *P. pavoninus*, increases in the *P. Antissianus*, and extends beyond the tail in *P. auriceps*; but no species with upper tail-coverts of intermediate length between those of the last-mentioned species and the immensely long plumes of *P. paradiseus* appears to exist. In like manner, among the Andean Humming-Birds there is a tendency to a gradual increase in the length of the bill, to the extent of two or two and a half inches; but no species has yet been seen in which that organ is intermediate between that length and the extraordinarily developed bill of *Docimastes*, which measures at least five inches. A similar fact is also observable with respect to the spatules in the *Spathuræ*.

Apart from developement, I observe that in the Humming-Birds, as in some other groups to which I have paid particular attention, the species of one genus are much more numerous than those of others, and that, whenever this is the case, the genus usually comprises many closely allied species.

Among the most pleasing recollections of our youthful days is that of a birds' nest. Where is the person



who has lived in the country and paid any attention to natural history, that does not recollect that of the Hedge-Accentor (*Accentor modularis*) with its beautiful blue eggs; or has he ever ceased to wonder at the surprising construction of the nest of the Bottle-Tit (*Mecistura caudata*)? their domestic architecture is indeed among the most interesting of the many singular features in the economy of birds. And how truly wonderful are some of the nests of the Humming-Birds! In form and size they vary as much as the different structure of the birds would lead us to expect, and a similar difference occurs in the situations in which they are placed. Some of these cradles are not larger than the half of a walnut-shell, and these coracle-shaped structure are among the neatest and most beautiful. The members of the genus *Trochilus* and their allies expend the greatest ingenuity, not so much in their construction as in the lavish decoration of their outer walls; with the utmost taste do these birds instinctively fasten thereon beautiful pieces of flat lichen, the larger pieces in the middle, and the smaller on the part attached to the branch. It is a question among ornithologists whether these adornments are fixed on by a glutinous secretion from the bird, or by the invisible webs of some of the smaller kinds of spiders; my own belief is, that the latter is the means employed. Now and then a pretty feather is intertwined or fastened to the outer side, the stem being always so placed that the feather stands out beyond the surface. These little cup-shaped nests are frequently placed on the bifurcation of the horizontal part of a branch near the ground, and at other times higher up towards the summit. Quite the reverse of this kind of nest are those built by the *Phaethornithes*: these latter are generally very frail structures, woven round and attached to the side of a drooping palm-leaf, very frequently overhanging water. Such a nest is figured in my plate of *P. Eurynome*. Another, of a similar form, but of different materials, is figured in the same volume, in the plate illustrative of *P. Eremita*, with two young ones therein.

Other Humming-Birds suspend their nests to the sides of rocks. These are hammock-shaped in form, and are most ingeniously attached to the face of the rock by means of spiders' webs and the cottony materials of which they are sometimes built. Those made by the *Oreotrochili* are very large, and composed of wool, llama hair, moss, and feathers; at the top of this great mass, of nearly the size of a child's head, is a little cup-shaped depression in which the eggs are deposited. Respecting the nest made by the *Oreotrochilus Pichincha*, my friend Professor Jameson, of Quito, writes, "On the first of the present month (November 1858), I visited the snowy mountain of Antisana in company with the American Minister. In the celebrated Farm-house (about 13,500 feet above the sea) I found in one of the lower or ground-apartments, unprovided with a door, several nests of *Oreotrochilus Pichincha*, one of which was attached to a straw rope suspended from the roof. I am quite certain as to the identity of the species, having shot one of the birds. The rest will be sent to you in my next parcel." See the figure of this nest given by Dr. Sclater in the 'Proceedings of the Zoological Society,' 1860, p. 80.

Some of the Humming-Birds, and perhaps this very species, are said to suspend their great nests by the middle from the fine hanging root of a tree, or a tendril; and should the nest, which is of a curved form and built of any coarse materials at hand, prove to be heavier on one side than the other, the higher side is weighted with a small stone or square piece of earth until an equilibrium is established and the eggs prevented from rolling out. If such powers, so nearly approaching to that of reason, should be doubted by some of my readers, I can assure them that one or more of these loaded nests are contained in the Loddigesian Collection; and one is at this moment before me, an examination of which will satisfy the most sceptical of the truth of this statement. Occasionally the old nests are repaired or built over the old one, two, three, or more years in succession. Many other instances might be given to show that the nidification of the

Humming-Birds is as singular as are the birds themselves. I believe that generally the eggs are two in number, but I also think it likely that some of the *Phaethornithes*, or rather the members of the genus *Glaucis*, occasionally lay but one; for I have frequently seen only a single young bird in the nests sent to this country, and this single bird generally filled up the entire space of the frail structure, which, as I have before stated, is usually attached to the leaflet of a palm. The eggs are certainly large when we consider the tiny size of the birds which produce them; in shape they are oblong, nearly alike in form at both ends, and are probably of a pinkish hue before their contents are removed; after which they become of an opaque white, and so closely resemble bon-bons that they might easily be mistaken for them. The birds are said to produce two broods a year; and the period of incubation generally occupies about twelve or fourteen, or, according to Captain Lyon, eighteen days. This gentleman, when giving an account of some Humming-Birds whose hatching and education he sedulously watched, as the nest was made in a little orange-bush by the side of a frequented walk in his garden at Gongo Soco, in Brazil, states that the nest "was composed of the silky down of a plant, and covered with a small flat species of yellow lichen. The first egg was laid January 26th, the second on the 28th; and two little creatures like bees made their appearance on the morning of February 14th. As the young increased in size, the mother built her nest higher and higher. The old bird sat very close during a continuance of heavy rain for several days and nights. The young remained blind until February 28th, and flew on the morning of March 7th, without previous practice, as strong and swiftly as the mother, taking their first dart from the nest to a tree about twenty yards distant."

Let me now mention one of the devices employed for the discovery of the nest of the Humming-Birds. Every observer who has written upon them has not failed to descant upon their boldness and pugnacity. Not only do they attack birds of much larger size than themselves, but it is even asserted that they will tilt at the Eagle if he approaches within the precincts of the nest; nor is man exempt from their assaults, of which an amusing instance will be found in the extract from Lady Emmeline Stuart Wortley's 'Travels' given on a subsequent page.

It is this readiness for combat which is taken advantage of to find the nest and eggs; and all that is necessary is to tie a string to your hat, and wave it round your head, when, if a female be sitting in the neighbourhood, the male will instantly come down upon you; and by watching his return, the nest may be detected.

Many really absurd statements have been made as to the means by which these birds are obtained for our cabinets. It is most frequently asserted that they are shot with water or with sand. Now, so far as I am aware, these devices are never resorted to, but they are usually procured in the ordinary way, with numbers ten and eleven shot, those being the sizes best suited for the purpose. If smaller shot be used, the plumage is very frequently so cut and damaged that the specimen is rendered of little or no value. By far the greater number fall to the clay ball of the blowpipe, which the Indians, and in some instances even Europeans use with perfect certainty of aim. My friend Professor Jameson has a son who appears to be a proficient in this mode of obtaining Humming-Birds, as I know that many of the specimens he has sent me have been thus procured.

In Brazil very fine nets are employed for this purpose; but how these nets are used I am unable to state. Unfortunately for me, many specimens of the fine species *Cometes sparganurus* in my possession have been



obtained by means of birdlime; and this is evidently the way in which these birds are captured in the neighbourhood of Chuquisaca.

That the Humming-Bird is not altogether denied the power of song, we learn from the notices respecting its vocalization by various authors; but as this is a point upon which I cannot speak from personal observation, I shall take the liberty of quoting from those who have written on the subject. To begin with the remarks of my friend Mr. W. C. L. Martin:—

“It is not to the most beautiful birds that the voice of melody is given. The Mocking-Bird, the Nightingale, and the Thrush are but plainly attired; and it would appear that if Nature be lavish in one respect, she is parsimonious in another. On the Humming-Birds she has bestowed the gift of beauty: she has created them winged gems—she has chased their plumage with burnished metals or overspread it with laminæ of topaz and emerald—she has strained, so to speak, at every variety of effect—she has revelled in an infinitude of modifications, whether we look at the hue or the development of the feathering. We can scarcely, then, expect that, to such an external perfection, the gift of song will be also added; and, indeed, when we reflect upon the structure of the tongue, of the os hyoides which supports its base, and of the mechanism by which it is rendered capable of protrusion, remembering that the os hyoides is connected with the larynx, we cannot in reason suppose that these birds can be eminent as songsters. Nevertheless it would appear that some species at least utter, while perched, a sort of querulous warble.

“The ordinary cry of the Humming-Birds is sharp and shrill, generally uttered on the wing, and frequently reiterated by the males during their combats with each other. It is principally, says Lesson, in passing from one place to another, that their cry, which he likens to the syllables *tère-tère*, articulated with more or less force, is excited. Most frequently, he says, they are completely dumb; and he adds that he has passed whole hours in observing them in the forests of Brazil without having heard the slightest sound proceed from their throats.”

Mr. Gosse, in his ‘Birds of Jamaica,’ speaking of a species which he calls the Vervain Humming-Bird (the *Mellisuga minima* of this work), says, “The present is the only Humming-Bird that I am acquainted with that has a real song. Soon after sunrise, in the spring months, it is fond of sitting on the topmost branch of a mango or orange-tree, where it warbles in a very weak, but very sweet tone, a continuous melody for ten minutes at a time; it has little variety. The others only utter a pertinacious chirping.”

It will be expected that some remarks should now be made with regard to the luminous character of certain parts of the plumage of these charming birds—a point which has engaged the attention of many naturalists and physiologists, but of which I believe no very satisfactory solution has yet been attained. “A few days since,” says Mr. Martin, “we were examining a Humming-Bird, the gorget of which was an intense emerald-green; but on changing the light (that is, altering its angle of incidence), the emerald was changed into velvet-black. Audebert considered this changeableness to be due to the organization of the feathers, and to the manner in which the luminous rays are reflected on falling upon them: and of this, we think, there can be little doubt; for each feather, when minutely inspected, exhibits myriads of little facets so disposed as to present so many angles to the incidence of light, which will be diversely reflected according to the position of the feather, and in some positions not reflected in any sensible degree, and thus emerald may become a velvet-black.

“Lesson supposes that the brilliant hues of the plumage of the Humming-Birds are derived from some elements contained in the blood, and elaborated by the circulation—a theory we do not quite understand, inasmuch as colour is the result of the reflection of some rays and the absorption of others, caused by the arrangement of the molecules of any given body. He adds, however, that the texture of the plumes plays the principal part, in consequence of the manner in which the rays of light traverse them, or are reflected by the innumerable facets which a prodigious quantity of barbules or fibres present. All the scaly feathers, he observes, which simulate velvet, the emerald, or the ruby, and which we see on the head and throat of the *Epimachi* (as the Grand Promerops of New Guinea), the Paradise-Birds, and the Humming-Birds, resemble each other in the uniformity of their formation; all are composed of cylindrical barbules, bordered with other analogous regular barbules, which, in their turn, support other small ones; and all of them are hollowed in the centre with a deep furrow, so that when the light, as Audebert first remarked, glides in a vertical direction over the scaly feathers, the result is that all the luminous rays are absorbed in traversing them, and the perception of black is produced. But it is no longer the same when the light is reflected from these feathers, each of which performs the office of a reflector; then it is that the aspect of the emerald, the ruby, &c. varying with the utmost diversity under the incidences of the rays which strike them, is given out by the molecular arrangement of the barbules. It is thus that the gorget of many species takes all the hues of green, and then the brightest and most uniformly golden tints, down to intense velvet-black, or, on the contrary, that of ruby, which darts forth pencils of light, or passes from reddish orange to a crimsoned red-black.

“It is thus, we think, that the everchanging hues of the gorgets of the Humming-Birds from black to emerald, ruby, crimson, or flame-colour are to be explained.”

In a note just received from Dr. Davy, dated Ambleside, June 10, 1861, that gentleman says:—“I have examined with the microscope the feathers of the Humming-Bird, *Aglæactis cupripennis*, you entrusted to me, which is so remarkable for its rich colours as seen in one direction, and only one. The result is merely the following—viz., that those feathers in which this peculiarity is most strongly marked are membranous, terminating in pointed filaments, set on obliquely, so that looking from the head each feather is only partially seen. This result, I apprehend, will help very little to account for the peculiarity in question. Its explanation must be sought (must it not?) in the higher optics.”

“As to the question you ask me about the beautiful play of colours in the Humming-Birds,” says Dr. Stevelly, “I have never studied the subject, and I should greatly fear to say anything about it, particularly if what I said were to be looked on as of any authority.

“There are two optical principles only which I can see to be any way concerned in such an effect. One is the cause of the play of colours in mother-of-pearl, and which Brewster proved to arise from very fine striated rulings, the distance between the parallel lines not being greater than from the 10,000th to the 100,000th of an inch. Barton, of Birmingham, imitated this by ruling very fine parallel lines on steel dies, and then impressing these on buttons, which showed very beautiful colours when exposed to strong light. The other optical principle, which I think, however, to be the most likely to produce the effect in the case of feathers, is the influence of thin plates. If you know Mr. Gassiot (one of your leading Royal Institution savants), get him to show you some of his copper-plates, on which by an electrotpe process he has had very thin films of lead deposited; and I think you will see colours fully as beautiful, though not as varied or as variable in different aspects as those of the Humming-Bird.”



It may not be out of place now to give a few extracts from the works of those authors who have written on the Trochilidæ in general or on some particular species. A perusal of these will tend to confirm much that I have said; and it is but fair that the writings of those who have wielded the pen in elucidation of the history, habits, and manners of these lovely birds should be duly recognized.

It is fortunate for the science of Ornithology that so many persons gifted with the power of expressing their ideas in elegant and poetical language should have bestowed a large share of their attention upon the Humming-Bird. The writings of Buffon, Wilson, Waterton, Audubon, Gosse, and others, treating exclusively on natural history, are not, perhaps, so generally known as they ought to be; the extracts from these authors will therefore, I doubt not, be found of interest.

“Of all animated beings,” says Buffon, “this is the most elegant in form and the most brilliant in colour. The stones and metals polished by art are not comparable to this gem of Nature: she has placed it in the order of Birds, but among the tiniest of the race—*maxime miranda in minimis*; she has loaded it with all the gifts of which she has only given other birds a share. Agility, rapidity, nimbleness, grace, and rich attire, all belong to this little favourite. The emerald, the ruby, and the topaz, glitter in its garb, which is never soiled with the dust of earth; for, leading an ærial life, it rarely touches the turf even for an instant. Always in the air, flying from flower to flower, it shares their freshness and their splendour, lives on their nectar, and only inhabits those climates in which they are unceasingly renewed. The Humming-Bird seems to follow the sun, to advance, to retire with him, and to fly on the wings of the wind in pursuit of an eternal spring.”

“Nature in every department of her works,” says Wilson, “seems to delight in variety; and the present subject is almost as singular for its minuteness, beauty, want of song, and manner of feeding, as the preceding (the Mocking-Bird) is for unrivalled excellence of notes and plainness of plumage. This is one of the few birds that are universally beloved; and amidst the sweet dewy serenity of a summer’s morning, his appearance among the arbours of honeysuckles and beds of flowers is truly interesting.

“When morning dawns, and the blest sun again  
Lifts his red glories from the eastern main,  
Then through our woodbines, wet with glittering dews,  
The flower-fed Humming-Bird his round pursues;  
Sips with inserted tube the honied blooms,  
And chirps his gratitude as round he roams;  
While richest roses, though in crimson drest,  
Shrink from the splendour of his gorgeous breast.  
What heavenly tints in mingling radiance fly!  
Each rapid movement gives a different dye;  
Like scales of burnished gold they dazzling show—  
Now sink to shade, now like a furnace glow!”

“Where is the person,” says Audubon, speaking of the *Trochilus Colubris*, “who, on seeing this lovely little creature moving on humming winglets through the air, suspended as if by magic in it, flitting from one flower to another with motions as graceful as they are light and airy, pursuing its course and yielding new delights wherever it is seen—where is the person, I ask, who, on observing this glittering fragment of the rainbow, would not pause, admire, and turn his mind with reverence towards the Almighty Creator, the wonders of whose hand we at every step discover, and of whose sublime conceptions we everywhere observe the manifestations in his admirable system of creation? There breathes not such a person; so kindly have we all been blessed with that intuitive and noble feeling—admiration.

“I wish it were in my power to impart to you, kind reader, the pleasures which I have felt while watching the movements and viewing the manifestations of feelings displayed by a single pair of these most favourite little creatures when engaged in the demonstration of their love for each other ;—how the male swells his plumage and throat, and, dancing on the wing, whirls around the delicate female ; how quickly he dives towards a flower and returns with a loaded bill, which he offers to her to whom alone he desires to be united ; how full of ecstasy he seems to be when his caresses are kindly received ; how his little wings fan her as they fan the flowers, and he transfers to her bill the insect and the honey which he has procured with a view to please her ; how these attentions are received with apparent satisfaction ; how, soon after, the blissful compact is sealed ; how, then, the courage and care of the male is redoubled ; how he even dares to give chase to the tyrant Flycatcher, hurries the Blue-Bird and the Martin to their boxes ; and how, on sounding pinions, he joyously returns to the side of his lovely mate. Reader, all these proofs of the sincerity, fidelity, and courage with which the male assures his mate of the care he will take of her while sitting on her nest, may be seen, have been seen, but cannot be portrayed or described.

“Could you cast a momentary glance on the nest of the Humming-Bird and see, as I have seen, the newly-hatched pair of young, little larger than humble-bees, naked, blind, and so feeble as scarcely to be able to raise their little bill to receive food from the parents ; and could you see those parents full of anxiety and fear, passing and repassing within a few inches of your face, alighting on a twig not more than a yard from your body, waiting the result of your unwelcome visit in a state of the utmost despair, you could not fail to be impressed with the interest of the scene. Then how pleasing it is, on your leaving the spot, to see the returning hope of the parents when, after examining the nest, they find their nestlings untouched ! These are the scenes best fitted to enable us to partake of sorrow and joy, and to determine every one who views them to make it his study to contribute to the happiness of others, and to refrain from wantonly or maliciously giving them pain.

“A person standing in a garden by the side of a common *Althæa* in bloom, will be surprised to hear the humming of their wings, and then see the birds themselves within a few feet of him, as he will be astonished at the rapidity with which the little creatures rise into the air, and are out of sight and hearing the next moment.

“No bird seems to resist their attacks ; but they are sometimes chased by the larger kinds of humble-bees, of which they seldom take the least notice, as their superiority of flight is sufficient to enable them to leave those slow-moving insects far behind in the short space of a minute.

“If comparison might enable you to form some tolerably accurate idea of their peculiar mode of flight and their appearance when on the wing, I should say that, were both objects of the same colour, a large *Sphinx* or moth when moving from one flower to another, and in a direct line, comes nearer the Humming-Bird in aspect than any other object with which I am acquainted.”—*Audubon, Ornithological Biography*, vol. i. p. 248, &c. For the other portions of Wilson’s and Audubon’s very interesting observations, I must refer my readers to my account of *Trochilus Colubris*.

“Though least in size,” remarks Mr. Waterton, “the glittering mantle of the Humming-Bird entitles it to the first place in the list of the birds of the New World. It may truly be called the Bird of Paradise ; and had it existed in the Old World it would have claimed the title, instead of the bird which has now the honour to bear it. See it darting through the air almost as quick as thought !—now it is within a yard of



your face!—in an instant it is gone!—now it flutters from flower to flower to sip the silver dew—it is now a ruby—now a topaz—now an emerald—now all burnished gold! It would be arrogant to pretend to describe this winged gem of nature after Buffon's elegant description of it.

“Cayenne and Demerara produce the same Humming-Birds. Perhaps you would wish to know something of their haunts. Chiefly in the months of July and August, the tree called Bois Immortel, very common in Demerara, bears abundance of red blossom, which stays on the tree for some weeks; then it is that most of the species of Humming-Birds are very plentiful. The wild Red Sage (*Salvia splendens*) is also their favourite shrub; and they buzz like bees round the blossoms of the Wallaba-tree; indeed there is scarce a flower in the interior, or on the sea-coast, but what receives frequent visits from one or other of the species.

“On entering the forests of the rising land in the interior, the blue and green, the smallest brown, no bigger than the humble-bee, with two long feathers in the tail, and the little forked-tail purple-throated Humming-Birds glitter before you in ever-changing attitudes.

“As you advance towards the mountains of Demerara, other species of Humming-Birds present themselves before you. It seems to be an erroneous opinion that the Humming-Bird lives entirely on honey-dew. Almost every flower of the tropical climate contains insects of one kind or other: now the Humming-Bird is most busy about the flowers an hour or two after sunrise, and after a shower of rain; and it is just at this time that the insects come out to the edge of the flower, in order that the sun's rays may dry the nocturnal dew and rain which they have received. On opening the stomach of the Humming-Bird, dead insects are almost always found there.”

“The Humming-Birds in Jamaica,” says Lady Emmeline Stuart Wortley in her Travels, “are lovely little creatures, and most wonderfully tame and fearless of the approach of man. One of these charming feathered jewels had built its delicate nest close to one of the walks of the garden belonging to the house where we were staying. The branch, indeed, of the beautiful shrub in which this fairy nest was suspended almost intruded into the walk; and every time we sauntered by, there was much danger of sweeping against this projecting branch with its precious charge, and doing it some injury, as very little would have demolished the exquisite fabric. In process of time, two lovely pear-like eggs had appeared; and while we were there we had the great pleasure of seeing the minute living gems themselves appear, looking like two very small bees. The mother-bird allowed us to look closely at her in the nest, and inspect her little nurslings, when she was flying about near, without appearing in the least degree disconcerted or alarmed. I never saw so tame or so bold a pet. But she did not allow the same liberties to be taken by everybody unchecked. One day, as Sir C—— was walking in the pretty path beside which the fragile nest was delicately suspended amid sheltering leaves, he paused in order to look at its Lilliputian inhabitants. While thus engaged, he felt suddenly a sharp light rapping on the crown of his hat, which considerably surprised him. He looked round to ascertain from whence the singular and unexpected attack proceeded: but nothing was to be seen. Almost thinking he must have been mistaken, he continued his survey, when a much sharper and louder rat-tat-tat-tat-tat seemed to demand his immediate attention, and a little to jeopardize the perfect integrity and preservation of the fabric in question. Again he looked round, far from pleased at such extraordinary impertinence, when what should he see but the beautiful delicate Humming-Bird, with ruffled feathers and fiery eyes, who seemed by no means inclined to let him off without a further infliction of sharp taps and admonitory raps from her fairy beak. She looked like a little fury in miniature—a winged Xantippe. Those pointed

attentions apprised him that his company was not desired or acceptable; and, much amused at the excessive boldness of the dauntless little owner of the exquisite nest he had been contemplating, Sir C—— moved off, anxious not to disturb or irritate further this valiant minute mother, who displayed such intrepidity and cool determination. As to V—— and me, the darling little pet did not mind us in the least; she allowed us to watch her to our hearts' content during the uninterrupted progress of all her little household and domestic arrangements, and rather appeared to like our society than not, and to have the air of saying, 'Do you think I manage it well? eh?' "

"I cannot quit the subject," says the Reverend Lansdown Guilding, "without speaking of the delight that was afforded me, in Jamaica, by seeing Humming-Birds feeding on honey in the florets of the great Aloe (*Agave Americana*, Linn.). On the side of a hill upon Sutton's Estate (the property of Henry Dawkins, Esq.) were a considerable number of aloe-plants, of which about a dozen were in full blossom. They were spread over a space of about twenty yards square. The spikes, bearing bunches of flowers in a thyrsus, were from twelve to fifteen feet high; on each spike were many hundred flowers of a bright yellow colour, each floret of a tubular shape and containing a good-sized drop of honey. Such an assemblage of floral splendour was in itself most magnificent and striking; but it may be imagined how much the interest caused by this beautiful exhibition was increased by vast numbers of Humming-Birds, of various species, fluttering at the opening of the flowers, and dipping their bills first into one floret and then into another,—the sun, as usual, shining bright upon their varied and beautiful plumage. The long-tailed or Bird-of-Paradise Humming-Bird was particularly striking, its long feathers waving as it darted from one flower to another. I was so much delighted with this sight, that I visited the spot again in the afternoon, after a very long and fatiguing day's ride, accompanied by my wife, on horseback, when we enjoyed the scene before us for more than half-an-hour."

"The pugnacity of the Humming-Birds," remarks Mr. Gosse, "has been often spoken of: two of one species can rarely suck flowers from the same bush without a rencontre. I once witnessed a combat between two, which was prosecuted with much pertinacity and protracted to an unusual length. It was in the month of April, when I was spending a few days at Phoenix Park, near Savannah la Mar, the residence of my kind friend Aaron Deleon, Esq. In the garden were two trees, of the kind called Malay Apple (*Eugenia Malaccensis*), one of which was but a yard or two from my window. The genial influence of the spring rains had covered them with a profusion of beautiful blossoms, each consisting of a multitude of crimson stamens, with very minute petals, like bunches of crimson tassels; but the leaf-buds were only beginning to open. A Humming-Bird had every day and all day long been paying his devoirs to these charming blossoms. On the morning to which I allude, another came, and the manœuvres of these two tiny creatures became very interesting. They chased each other through the labyrinths of twigs and flowers, till, an opportunity occurring, the one would dart with seeming fury upon the other, and then, with a loud rustling of their wings, they would twirl together round and round, till they nearly came to the earth. It was some time before I could see, with any distinctness, what took place in these tussles; their whirlings were so rapid as to baffle all attempts at discrimination. At length an encounter took place pretty close to me, and I perceived that the beak of the one grasped the beak of the other, and thus fastened both whirled round and round in their perpendicular descent, the point of contact being the centre of the gyrations, till, when another second would have brought them both on the ground, they separated, and the one chased the other for about a hundred yards and then returned in triumph to the tree, where, perched on a lofty twig, he chirped monotonously and pertinaciously for some time—I could not help thinking, in defiance. In a few minutes, however, the banished one returned and began chirping no less provokingly, which soon brought



on another chase and another tussle. I am persuaded that these were hostile encounters : for one seemed evidently afraid of the other, fleeing when the other pursued, though his indomitable spirit would prompt the chirp of defiance ; and when resting after a battle, I noticed that this one held his beak open as if panting. Sometimes they would suspend hostilities to suck a few blossoms ; but mutual proximity was sure to bring them on again, with the same result. In their tortuous and rapid evolutions, the light from their ruby necks would occasionally flash in the sun with gem-like radiance ; and, as they now and then hovered motionless, the broadly-expanded tail, the outer feathers of which are crimson-purple, but when intercepting the sun's rays transmit orange-coloured light, added much to their beauty. A little Banana Quit (*Certhiola flaveola*), that was peeping among the blossoms in his own quiet way, seemed now and then to look with surprise on the combatants ; but when the one had driven his rival to a longer distance than usual, the victor set upon the unoffending Quit, who soon yielded the point, and retired, humbly enough, to a neighbouring tree. The war (for it was a thorough campaign, a regular succession of battles) lasted fully an hour, and then I was called away from the post of observation. Both of the Humming-Birds appeared to be males."

"All the Humming-Birds have more or less the habit, when in flight, of pausing in the air, and throwing the body and tail into rapid and odd contortions. This is most observable in the Polytmus, from the effect that such motions have on the long feathers of the tail. That the object of these quick turns is the capture of insects I am sure, having watched one thus engaged pretty close to me. I observed it carefully, and distinctly saw the minute flies in the air which it pursued and caught, and heard repeatedly the snapping of the beak. My presence scarcely disturbed it, if at all."

In some notes on the 'Habits of the Humming-Birds of the Amazon,' kindly furnished me by Mr. Wallace, that gentleman says—

"The great number of species that frequent flowers, do so, I am convinced, for the small insects found there, and not for the nectar. In dozens, and perhaps hundreds, of common flower-frequenting species which I have examined, the crop, stomach, and intestines have been entirely filled with minute beetles, bees, ants, and spiders, which abound in most flowers in South America. Very rarely, indeed, have I found a trace of honey or of any liquid in the crop or stomach. The flowers they most frequent are the various species of *Inga*, and the papilionaceous flowers of many large forest-trees. I have never seen them at the Bignonias or any flowers but those which grow in large masses covering a whole tree or shrub, as they visit perhaps a hundred flowers in a minute and never stop at a single one. The little Emerald Hummer I have seen in gardens and at the common orange, *Asclepias*, which often covers large spaces of waste ground in the tropics. But there are many, such as *Phaethornis Eremita*, and some larger allied species, which I have never seen at flowers. These inhabit the gloomy forest-shades, where they dart about among the foliage, and I have distinctly observed them visit in rapid succession every leaf on a branch, balancing themselves vertically in the air, passing their beak closely over the under surface of each leaf, and thus capturing, no doubt, any small insects that may be upon them. While doing this the two long feathers of their tail have a vibrating motion, serving apparently as a rudder to assist them in performing the delicate operation. I have seen others searching up and down stems and dead sticks in the same manner, every now and then picking off something, exactly as a Bush-strike or a Tree-creeper does, with this exception, that the Humming-Bird is constantly on the wing. They also capture insects in the true Fissirostral manner, How often may they be seen perched on the dead twig of a lofty tree—the same station that is chosen by the tyrant Flycatchers and the Jacamars, and from which, like those birds, they dart off a short distance and, after a few whirls and balancings, return to the identical twig they had left. In the evening, too, just

after sunset, when the Goat-suckers are beginning their search after insects over the rivers, I have seen Humming-Birds come out of the forest and remain a long time on the wing—now stationary, now darting about with the greatest rapidity, imitating in a limited space the varied evolutions of their companions the Goat-suckers, and evidently for the same end and purpose.

“Many naturalists have noticed this habit of feeding on insects, but have generally considered it as the exception, whereas I am inclined to think it is the rule. The frequenting of flowers seems to me only one of the many ways by which they are enabled to procure their insect-food.”

“Wilson, Audubon, Mr. Gosse, and several others gifted with the ‘pen of a ready writer,’” says Mr. Alfred Newton, “have so fully described, as far as words will admit, the habits of different members of the family *Trochilidæ*, that it is unnecessary to say much upon this score. Their appearance is so entirely unlike that of any other birds that it is hopeless to attempt in any way to bring a just conception of it to the ideas of those who have not crossed the Atlantic; and even the comparison so often made between them and the *Sphingidæ*, though doubtless in the main true, is much to the advantage of the latter. One is admiring the clustering stars of a scarlet *Cordia*, the snowy cornucopias of a *Portlandia*, or some other brilliant and beautiful flower, when between the blossom and one’s eye suddenly appears a small dark object, suspended as it were between four short black threads meeting each other in a cross. For an instant it shows in front of the flower; an instant more, it steadies itself, and one perceives the space between each pair of threads occupied by a grey film; again another instant, and, emitting a momentary flash of emerald and sapphire light, it is vanishing, lessening in the distance, as it shoots away, to a speck that the eye cannot take note of,—and all this so rapidly that the word on one’s lips is still unspoken, scarcely the thought in one’s mind changed. It was a bold man or an ignorant one who first ventured to depict Humming-Birds flying; but it cannot be denied that representations of them in that attitude are often of special use to the ornithologist. The peculiar action of one, and probably of many or all other, species of the family is such, that at times, in flying, it makes the wings almost meet, both in front and behind, at each vibration. Thus, when a bird chances to enter a room, it will generally go buzzing along the cornice: standing beneath where it is, one will find that the axis of the body is vertical, and each wing is describing a nearly perfect semicircle. As might be expected, the pectoral muscles are very large; indeed the sternum of this bird is a good deal bigger than that of the common Chimney-Swallow (*Hirundo rustica*, L.). But the extraordinary rapidity with which the vibrations are effected seems to be chiefly caused by these powerful muscles acting on the very short wing-bones, which are not half the length of the same parts in the Swallow; and accordingly, great as this alar action is, and in spite of the contrary opinion entertained by Mr. Gosse (Nat. Sojourn in Jamaica, p. 240), it is yet sometimes wanting in power, owing doubtless to the disadvantageous leverage thus obtained; and the old authors must be credited who speak of cobwebs catching Humming-Birds.

“On the 3rd of May, 1857, a bird of this species” (*Eulampis chlorolæmus*, Gould) “flew into the room where I was sitting, and, after fluttering for some minutes against the ceiling, came in contact with a deserted spider’s web, in which it got entangled and remained suspended and perfectly helpless for more than a minute, when by a violent effort it freed itself. I soon after caught it, still having fragments of the web on its head, neck, and wings; and I feel pretty sure that had this web been inhabited and in good repair, instead of being deserted and dilapidated, the bird would never have escaped.”

In his ‘Notes on the Humming-Birds of Guatemala,’ Mr. Salvin says, “During the months of August and



September the localities of the various species of Humming-Birds are usually as follows. Among the trees on the south-eastern side of the lake" of Dueñas "are *Amazilia Devillei*, *Thaumastura henicura* (mostly females), *Campylopterus rufus*, *Helimaster longirostris*, *Chlorostilbon Osberti* (in small number), *Cyanomyia cyanocephala*, and *Trochilus Colubris*.

"On the hill-side to the south-westward of the lake are great numbers of *Campylopterus rufus*, and among the willows close to the water the males of *Thaumastura henicura* congregate. About the Convolvulus-trees in the llaño at the foot of the volcano are found *Eugenes fulgens*, *Amazilia Devillei*, *Thaumastura henicura* (in small numbers), *Trochilus Colubris* (very commonly towards the end of September).

"Entering the first barranco that opens out into the plain, we meet with *Campylopterus rufus*, *Myiabeillia typica*, *Heliopædica melanotis*; and a little higher up, *Petasophora thalassina* and *Delattria viridipallens*. Of course, occasionally a species is found not in its place as here indicated; for instance, I have seen in the first locality a single specimen (the only female I have met with) of *Eugenes fulgens*, and another high in the volcano. I have also seen a single *Petasophora thalassina* out on the llaño. These localities must therefore be taken as only generally indicating the distribution of the species found about Dueñas."—*Ibis*, vol. ii. p. 263.

At the moment of printing these pages, I have received a very interesting letter from my friend the Hon. G. W. Allen, of Moss Park, Toronto, in which the following passage occurs respecting the *Trochilus Colubris*:—

"I wish you could have been with us last summer, you would have had an opportunity of watching your favourite Humming-Birds to your heart's content. I do not in the least exaggerate when I say that, during the time the horse-chestnuts were in flower, there were hundreds of these little tiny creatures about my grounds. While sitting in my library I could hear their little, sharp, querulous note, as the males fought like so many little bantam-cocks with each other. On one large horse-chestnut tree, just at the corner of the house, they swarmed about the foliage like so many bees; and as the top branches of the tree were close to my bed-room windows, every now and then one bird more bold than the rest would dart into the open window, and perch upon the wardrobe or the top of the bed-post."

It will be expected that, in a monograph of a group of birds which have attracted so much notice, some account should be given of their internal structure; and as our well-known bird-anatomist, T. C. Eyton, Esq., has paid much attention to the subject, and given a very clear description of the anatomy of the largest species of the family (the *Patagona gigas*) in Mr. Darwin's 'Zoology of the Voyage of H.M.S. Beagle,' I have much pleasure in transferring it to my pages:—

"Tongue bifid, each division pointed; hyoids very long, in their position resembling those in the *Picidae* (Woodpeckers); trachea of uniform diameter, destitute of muscles of voice; bronchia very long; œsophagus funnel-shaped, slightly contracted on approaching the proventriculus, which is small and scarcely perceptible; gizzard small, moderately muscular, the inner coat slightly hardened, and filled with the remains of insects; intestine largest near the gizzard; I could not perceive a vestige of cæca. Length of the œsophagus, including the proventriculus,  $1\frac{3}{4}$ , inch of the intestinal canal  $3\frac{1}{2}$ ; length of the gizzard  $\frac{1}{4}$ , breadth  $\frac{1}{8}$ .

"Sternum with the keel very deep, its edge rounded and projecting anteriorly; posterior margin rounded,

and destitute of indentation or fissure; the ridges to which the pectoral muscles have their attachment large and prominent, the horizontal portion much narrowed anteriorly, consequently the junctions of the coracoids are very near together.

“Pelvis short, very broad; os pubis long, curved upwards at the extremities, projecting far downwards, and posteriorly beyond the termination of the caudal vertebræ; the ischiatic foramen small and linear; femora placed far backwards; coracoids short, very strong, their extremities much diverging; os furcatum short, slightly arched near the extremities of the rami, which are far apart, furnished with only a small process on its approach to the sternum; scapula flattened, long, broadest near the extremity; humerus, radius, and ulna short, the metacarpal bones longer than either, the former furnished with ridges much elevated for the attachment of the pectoral muscles; caudal and dorsal vertebræ with the transverse processes long and expanded; cranium of moderate strength, the occipital portion indented with two furrows, which pass over the vertex, and in which the hyoids lie; orbits large, divided by a complete bony septum; the lacrymal bones large, causing an expansion of the bill near the nostrils.

“Number of cervical vertebræ 10, dorsal 6, sacral 9, caudal 5; total 30.

“Number of true ribs 5, false 4; total 9.”

Dr. Davy states that the blood-corpuscles of a recently-killed Humming-Bird, examined by him in Barbadoes, “were beautifully definite, regular and uniform. The disk very thin, perfectly flat; the nucleus slightly raised; and the two corresponding in outline. The corpuscles 1-2666th by 1-4000th of an inch, the long diameter of the nucleus very nearly 1-4000th. The blood was small in quantity, as I apprehend is the blood of birds generally, but not deficient in red corpuscles. I have found its temperature to be about 105 degrees.”

I have found it impossible to divide the Humming-Birds into more than two subfamilies—*Phaethornithinæ* and *Trochilinæ*; for I find no such well-marked divisions among them as will enable me so to do: neither can I arrange them in anything like a continuous series; so many gaps occur here and there, that one is almost led to the belief that many forms have either died out or have not yet been discovered; consequently I am unable to commence with any one genus and arrange the remainder in accordance with their affinity. Whenever I have observed an apparent relationship between two or more genera, they have been placed in contiguity; and the species which appear to be allied to each other are arranged in continuous succession. I do not consider one species more typical than another; all are equally and beautifully adapted for the purposes they are intended to perform.

The following Synopsis will be found to contain a general view of the subject, and, as it also comprises many new synonyms and the additional information I have been able to obtain during the progress of the work, should always be consulted.

I shall now give the general characters by which the Trochilidæ are distinguished:—

Body small; sternum very deep; bill subulate, and generally longer than the head, straight, arched, or upcurved; tongue composed of two lengthened cylindrical united tubes, capable of great protrusion, and bifid at the tip; nostrils basal, linear, and covered by an operculum; wings lengthened, pointed, the first



quill-feather or primary of which is the longest, except in the genus *Aithurus*, where it is exceeded by the second; primaries ten in number; tarsi and feet very diminutive; tail consisting of ten feathers. The entire structure adapted for aerial progression.

#### Subfamily I. PHAËTHORNITHINÆ.

I commence my first volume with that well-marked section of the family comprising the genera *Grypus*, *Eutoxeres*, *Phaëthornis*, and their allies. The members of all these genera are remarkable for being destitute of metallic brilliancy, and, as their trivial name of "hermits" implies, for affecting dark and gloomy situations. They constitute, perhaps, the only group of the great family of Humming-Birds which frequent the interior of the forests, and there obtain their insect food, some from the undersides of the leaves of the great trees, while others assiduously explore their stems in search of such lurking insects as may be concealed in the crevices of the bark. It has been said that spiders constitute the food of many species of this group; and I believe that such is the case, for we find the bills admirably adapted for their capture, particularly those of *Grypus* and *Eutoxeres*. To individualize by name any particular country in South America in which these birds are found is unnecessary, for they are generally distributed over its temperate and hotter portions; but they are not to be met with either very far north or very far south of the equator; that is to say, their range is bounded northwardly by Southern Mexico, and southwardly by Bolivia. Within these limits, the high and the low lands are alike tenanted by them; but it is in the equatorial region that they are the most numerous, and where all, or nearly all, the genera have representatives. In the colouring of their plumage the sexes are generally alike. As a whole, they form a well-marked division, distinguished by their own especial peculiarities of form and style of plumage.

#### Genus GRYPUS, *Spix*.

This form, which comprises two species, both natives of Brazil, is remarkable for the bill of the male being different in structure from that of the female.

1. GRYPUS NÆVIUS . . . . . Vol. I. Pl. 1.  
*Phaëthornis nævius*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 152.  
*Ramphodon nævius*, Reichenb. Aufz. der Col. p. 15; Id. Troch. Enum. p. 12; Cab. et Hein. Mus. Hein. Theil iii. p. 3.  
*Habitat*. South-eastern Brazil.
2. GRYPUS SPIXI, *Gould* . . . . . Vol. I. Pl. 2.  
*Ramphodon chrysurus*, Reichenb. Aufz. der Col. p. 15; Id. Troch. Enum. p. 12?  
*Habitat*. Brazil.

The law of adaptation is perhaps equally carried out in every one of the multiplied forms, not only of ornithology, but of every other department of nature's works, each being constructed for some given purpose contributing to the well-being of the animal; in some instances, however, particular developments are more striking and singular than in others. The form to which the generic name of *Eutoxeres* has been given is a case in point. Of this remarkable genus two species are known, both of which are natives of the Andes of Ecuador, New Granada, and Veragua. It would be most interesting to become acquainted with their peculiar modes of life, and to ascertain for what end their singularly curved bills were designed. Some persons affirm that it is for the purpose of probing the scaly covering of the upright stems of certain trees, and others for the exploration of peculiar cup-shaped flowers, such as that of the orchid which I have figured in the plate of *Eutoxeres Aquila*. Whatever may be the design, future research must determine it; all that we at present know is, that this form does exist, and that there is no other which approaches to it. In size the two species are very similar; but there are good and plain specific characters by which they may be distinguished, and which will, I trust, be sufficiently apparent on reference to the plates in which the birds are represented.

Genus EUTOXERES, *Reichenb.*

The oldest-known species of this form is the—

3. EUTOXERES AQUILA . . . . . Vol. I. Pl. 3.  
*Eutoxeres Aquila*, Reichenb. Aufz. der Col. p. 15; Id. Troch. Enum. p. 12; Cab. et Hein. Mus. Hein. Theil iii.  
 p. 3, note.  
*Myiactina aquila*, Bonap. Rev. et Mag. de Zool. 1854, p. 249.  
*Habitat.* Costa Rica, New Granada, and Ecuador.

The following notes respecting this species, by Dr. J. King Merritt, will be read with interest. They are extracted from the 6th volume of the 'Annals of the Lyceum of Natural History of New York,' p. 139 :—

"It was, as near as I can recollect, during the month of September 1852, that I saw for the first time and obtained a specimen of this (to me) curious and novel bird. I was at that time stationed in the mountainous district of Belen, province of Veragua, New Granada.

"My attention at that particular period was directed towards the collection of specimens of the Humming-Bird family. One day, while out hunting a short distance from the camp, I was startled by the swift approach of a small object through the close thicket, which darted like a rifle-bullet past me, with a loud hum and buzzing of wings. Indeed, it was this great noise that accompanied its flight that especially attracted my attention as something uncommon.

"The bird continued its flight but a short distance beyond the spot where I stood, when it suddenly stopped in its rapid course directly in front of a flower. There for a moment poising itself in this position, it darted upon the flower in a peculiar manner; in fact, the movements which now followed were exceedingly curious. Instead of inserting its beak into the calyx by advancing in a direct line towards the flower, as customary with this class of birds, this one performed a curvilinear movement, at first stooping forward while it introduced its beak into the calyx, and then, when apparently the point of the beak had reached the desired locality in the flower, its body suddenly dropped downwards, so that it seemed as though it was suspended from the flower by the beak. That this was not actually the case, the continued rapid movement of its wings demonstrated beyond a doubt. In this position it remained the ordinary length of time, and then, by performing these movements in the reverse order and direction, it freed itself from the flower, and afterwards proceeded to the adjoining one, when the same operation was repeated as already described.

"The flower from which it fed is somewhat peculiar in form, &c. The plant belongs to the Palm species, and grows in low marshy places, on or near the margins of rivers and mountain streams. It consists of a dozen or more straight stems, each of which terminates above in a broad expanded leaf that somewhat resembles the plantain. These stems all start from a clump at the surface of the ground, but they immediately separate and slightly diverge from each other. The stems with the leaf grow to the height of six to ten feet, more or less. From one or two of the centre stems a flower-stalk puts forth, which hangs pendent, and to this are attached alternately on either side the flowers, while the space between each corresponds with the attachment of the one on the opposite side of the stalk.

"The flower resembles somewhat in form the Roman helmet inverted, and is attached, as it were, by the point of the crest to the stalk. It is a fleshy mass, and the cavity of the calyx extends in a tortuous manner downwards towards the attachment of the flower to the stalk."

4. EUTOXERES CONDAMINEI . . . . . Vol. I. Pl. 4.  
*Eutoxeres Condaminei*, Reichenb. Aufz. der Col. p. 15; Id. Troch. Enum. p. 12; Cab. et Hein. Mus. Hein. Theil iii.  
 p. 3, note.  
*Myiactina condamini*, Bonap. Rev. et Mag. de Zool. 1854, p. 249.  
*Habitat.* Eastern Ecuador.

For the knowledge of the existence of *E. Condaminei* science is indebted to the researches of M. Bourcier, who brought specimens from Archidona.

Genus GLAUCIS, *Boié.*

This genus comprises, as far as at present ascertained, six well-determined species, three of which are very



nearly allied. It will be seen, on reference to my account of *G. hirsuta*, that when it was written I was much perplexed with regard to its synonymy, or, rather, as to whether the small red-coloured bird, *G. Mazeppa*, was or was not identical with it; and although some years have since elapsed, I have not even now been able to arrive at a satisfactory solution of the difficulty. Under these circumstances, I think it will be best to regard the *G. Mazeppa* as distinct; and this view of the subject is supported by the fact that I do not find small red-coloured birds accompanying the allied species, *G. affinis*, Lawr., which is a native of Bogota. I think it likely that all these birds, when fully adult, have the tail shorter and more rounded than during the period of immaturity or at the end of the first year of their existence. The youthful state, then, is indicated by a more cuneate form of tail, all the feathers of which are pointed and tipped with white; and as the birds advance in age, at each moult the tail-feathers become more rounded and the white tipping less, until at length it is reduced to a mere fringe, existing in some instances on the middle feathers alone.

The distribution of the species of the genus *Glaucis* extends over the whole of the eastern parts of Brazil, the Guianas, Trinidad, Tobago, Venezuela, the banks of the Amazon, New Granada, and Veragua.

5. *GLAUCIS HIRSUTA* . . . . . Vol. I. Pl. 5.  
*Trochilus Dominicus*, Licht. Dubl. p. 12; Cab. Schomb. Reise Guian. tom. iii. p. 708.  
 ——— *ferrugineus*, Wied, Beitr. iv. p. 20.  
 ——— *superciliosus*, fœm., Less. Hist. Nat. des Col. p. 38, pl. 7; Id. Traité d'Orn. p. 289; Jard. Nat. Lib. Humming-Birds, vol. ii. p. 120, pl. 27; Burm. Th. Bras. tom. ii. p. 324.  
 ——— *hirsutus*, Cab. et Hein. Mus. Hein. Theil iii. p. 4.  
*Habitat.* Eastern Brazil, Venezuela, and the Island of Trinidad.
6. *GLAUCIS MAZEPPA* . . . . . Vol. I. Pl. 6.  
*Habitat.* Cayenne, the Guianas, and the Islands of Trinidad and Tobago.
7. *GLAUCIS AFFINIS*, Lawr. . . . . Vol. I. Pl. 7.  
*Habitat.* The high lands of New Granada. Specimens are frequently sent from Bogota.
8. *GLAUCIS LANCEOLATA*, Gould . . . . . Vol. I. Pl. 8.  
*Habitat.* Para.
9. *GLAUCIS MELANURA*, Gould . . . . . Vol. I. Pl. 9.  
*Habitat.* The banks of the Rio Napo and the Rio Negro.
10. *GLAUCIS DOHRNI* . . . . . Vol. I. Pl. 10.  
*Glaucis Dohrni*, Cab. et Hein. Mus. Hein. Theil iii. p. 4.  
*Habitat.* Southern Brazil.  
 M. Bourcier has given Ecuador as the locality where his specimen was procured; but my bird was received direct from the district of Espiritu Santo in Brazil.
11. *GLAUCIS RUCKERI* . . . . . Vol. I. Pl. 11.  
*Threnetes Ruckeri*, Reichenb. Aufz. der Col. p. 15; Id. Troch. Enum. p. 12.  
*Glaucis Ruckeri*, Cab. et Hein. Mus. Hein. Theil iii. p. 4.  
*Habitat.* Veragua.
12. *GLAUCIS FRASERI*, Gould . . . . . Vol. I. Pl. 12.

Mr. Fraser collected at Babahoyo, in Ecuador, specimens of a bird which both Dr. Sclater and myself considered to be identical with the *Glaucis Ruckeri*, but in which, on a more minute comparison with specimens from Veragua, I find such differential characters as to entitle it to a distinctive position; I have therefore named it after its discoverer, as a just tribute to one who has played a good part in the furtherance of science. The *G. Fraseri* differs from *G. Ruckeri* in being rather larger in size, in having a smaller amount of rusty red on the chest, and in having a decidedly grey breast; in other respects the two birds are very similar.

The following is Mr. Fraser's note respecting this species :—

“ Found on the edge of the virgin forest ; always solitary ; generally in dark and lonely places, and very restless. Irides hazel ; upper mandible black, lower yellow with a black tip ; legs and feet flesh-colour.”

*Habitat.* Ecuador.

Allied to the last form are the members of the genus *Threnetes* : these birds are not distinguished by any brilliancy of colouring, but two of them are very prettily marked about the throat and chest.

Surinam and the adjacent countries are given as the habitat of *T. leucurus*, while the banks of the Rio Napo are known to be the home of the bird I have called *cervinicauda* ; and the sombre-plumaged *T. Antoniaæ* is a native of Cayenne and the Guianas. I believe that the females of all three species are clothed like the males.

#### Genus THRENETES, *Gould*.

(Θρηνητής, a mourner.)

Generic characters.

*Male*.—*Bill* lengthened, arched, and pointed ; *wings* moderately long, and rounded at the tip ; *tail* short, square, or rounded ; *tarsi* partially clothed ; *feet* very small ; *hind toe* and *nail* short.

13. THRENETES LEUCURUS . . . . . Vol. I. Pl. 13.

*Threnetes leucurus*, Reichenb. Aufz. der Col. p. 15 ; Id. Troch. Enum. p. 12.

*Habitat.* Surinam and British Guiana.

14. THRENETES CERVINICAUDA, *Gould* . . . . . Vol. I. Pl. 14.

*Habitat.* Province of Quijos in Ecuador.

15. THRENETES ANTONIÆ . . . . . Vol. I. Pl. 15.

*Aphantochroa Antoniaæ*, Reichenb. Aufz. der Col. p. 15 ; Id. Troch. Enum. p. 12.

*Habitat.* Cayenne and the Guianas.

I now enter upon the genus *Phaëthornis*, the members of which are so widely dispersed, that the remark I made on the extended distribution of the entire group is almost applicable to this section of it. In the body of this work I have figured nearly thirty species under this generic appellation, including therein the smaller kinds to which Bonaparte gave the name of *Pygmornis*, a term I shall now adopt for these little birds : but a further subdivision of the group I cannot for a moment entertain ; the separation of the *P. Bourcieri* into a distinct genus, for which the term *Ametrornis* has been proposed by Dr. Reichenbach, and of the *P. Guyi* under that of *Toxoteuches* by Dr. Cabanis, being, in my opinion, quite unnecessary.

#### Genus PHAËTHORNIS, *Swains*.

16. PHAËTHORNIS EURYNOME . . . . . Vol. I. Pl. 16.

*Phaëthornis Eurynome*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 150.

*Phaëtornis eurynome*, Bonap. Consp. Gen. Av. tom. i. p. 67, *Phaëtornis*, sp. 5.

*Trochilus melanotis*, “ Licht.” Nordm. Erm. Reis. Atl. p. 2.

*Phaëtornis melanotis*, Gray & Mitch. Gen. of Birds, vol. i. p. 104, *Phaëtornis*, sp. 3 ; Bonap. Consp. Gen. Av. tom. i. p. 67, *Phaëtornis*, sp. 3.

*Ptyonornis Eurynome*, Reichenb. Aufz. der Col. p. 14 ; Id. Troch. Enum. p. 12.

*Phaëthornis Eurynome*, Cab. et Hein. Mus. Hein. Theil iii. p. 9.

*Habitat.* Brazil.

17. PHAËTHORNIS MALARIS.

*Phaëthornis superciliosus* . . . . . Vol. I. Pl. 17.

*Phaëthornis malaris*, Gray & Mitch. Gen. of Birds, vol. i. p. 101, sp. 2 ; Bonap. Consp. Gen. Av. tom. i. p. 67, sp. 2 ; Cab. et Hein. Mus. Hein. Theil iii. p. 9.

*Colibri à longue queue de Cayenne*, Buff. Pl. Enl. 600, 3.

*Brin blanc mâle*, Vieill. Ois. Dor. tom. i. p. 37, pl. 17.

*Trochilus superciliosus*, Id. Enc. Méth. Orn. part 2. p. 549, sp. 5 ; Less. Hist. Nat. des Col. p. 35, pl. 6 ; Id. Traité d’Orn. p. 288 ; Jard. Nat. Lib. Humming-Birds, vol. ii. p. 119, pl. 26 ; Cab. Schomb. Reise Guian. iii. p. 708 ; Burm. Th. Bras. ii. p. 323.



*Trochilus malaris*, "Licht." Nordm. Erm. Reis. Atl. p. 2, 15.  
*Phaethornis superciliosus*, Swains. Class. of Birds, vol. ii. p. 330 ; Jard. Nat. Lib. Humming-Birds, vol. ii. p. 150 ;  
Gray & Mitch. Gen. of Birds, vol. i. p. 104, *Phatornis*, sp. 1; Bonap. Consp. Gen. Av. tom. i. p. 67, *Phaetornis*,  
sp. 1 ; Pelzeln, Sitz. Acad. Wien, 1856, p. 157, 1.  
*Habitat.* Cayenne, the Guianas, and Northern Brazil?

It will be seen that the above list of synonyms differs from that given with my account of this species. I adopt these synonyms on the authority of Dr. Cabanis, who considers that I am in error in applying the term *superciliosus* to the bird I have figured under that name, and that it properly belongs to the one I have called *Pretrei*,—an opinion which is probably correct, as the German naturalists are doubtless better acquainted with the type specimens of continental writers than we can be: the synonyms of *malaris* and *superciliosus* are therefore given in accordance with the views of Dr. Cabanis.

18. PHAETHORNIS CONSOBRINA.

*Trochilus consobrinus*, "Bourc." Reichenb. Aufz. der Col. p. 17.  
*Phaethornis Moorei*, Lawr. in Ann. Lyc. Nat. Hist. New York, vol. vi. p. 259.  
*Habitat.* New Granada, Ecuador, and the banks of the Napo.

This is the bird so commonly sent from Bogota, and which so closely assimilates both to the *P. malaris* (*superciliosus* of my work) and *P. longirostris* (*cephalus*). It ranges over the north-western parts of Venezuela and New Granada. I have also a specimen from Archidona in Ecuador. A great number of specimens from all these countries are now before me, and among them two named *consobrinus* by M. Bourcier himself, and one from Mr. Lawrence of New York, labelled *P. Moorei*, proving that these two names have been applied to the same bird.

19. PHAETHORNIS FRATERCULA, Gould . . . . . Vol. I. Pl. 18.  
*Habitat.* Cayenne and the neighbouring countries.

Every ornithologist who has paid attention to the Trochilidæ must have seen a Humming-Bird from Cayenne and the adjacent countries which is very similar to, but smaller than, the *P. malaris* (*superciliosus* of this monograph); yet, strange to say, I find no description that will accord with it. I have therefore given it the above specific appellation. It is possible that it may be the female of the *P. malaris* (*superciliosus*).

20. PHAETHORNIS LONGIROSTRIS . . . . . Vol. I. Pl. 19.  
*Phaethornis longirostris*, Cab. et Hein. Mus. Hein. Theil iii. p. 9.  
*Habitat.* Central America.

21. PHAETHORNIS SYRMATOPHORA, Gould. . . . . Vol. I. Pl. 20.  
*Habitat.* Ecuador.

"Irides hazel; upper mandible black; lower mandible red, tipped with black; legs and feet dark flesh-colour. Stomach contained yellow insects. All insects previously examined amongst the Humming-Birds have been black." *Fraser in Proc. of Zool. Soc.* part xxvii. p. 145.

22. PHAETHORNIS BOLIVIANA, Gould.  
*Habitat.* Bolivia.

Upper mandible black; under mandible yellow, with a dark tip; above and beneath the eye a stripe of buff; chin smoky brown; throat, chest, belly, and under tail-coverts dull reddish fawn-colour; crown dark brown, each feather faintly striated with buff; all the upper surface dull reddish fawn-colour, crescented with small marks of brown; base of the four outer tail-feathers on each side bronzy green, to which succeeds a bar of black, beyond which the tip is reddish buff; the two prolonged centre-feathers bronze at the base, then brownish black, and white for the remainder of their length.

Total length 5½ inches, bill 1½, wing 2½, tail 2½.

This bird is somewhat allied to *P. syrmatophora*; but it is of much smaller size, and has the throat and chest differently coloured, those parts being obscure smoky grey without the conspicuous streakings of buff; the whole under-surface also, as well as the rump, is less richly coloured.

23. PHAËTHORNIS PHILIPPI . . . . . Vol. I. Pl. 21.  
*Ametrornis Defilippii*, Cab. et Hein. Mus. Hein. Theil iii. p. 10, note.  
*Habitat.* Peru or Bolivia.
24. PHAËTHORNIS HISPIDA, *Gould* . . . . . Vol. I. Pl. 22.  
*Ptyonornis hispida*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12.  
*Habitat.* Bolivia.
25. PHAËTHORNIS OSERYI . . . . . Vol. I. Pl. 23.  
*Habitat.* New Granada and Ecuador.
26. PHAËTHORNIS ANTHOPHILA . . . . . Vol. I. Pl. 24.  
*Phaethornis anthophila*, Cab. et Hein. Mus. Hein. Theil iii. p. 9.  
*Habitat.* New Granada.
27. PHAËTHORNIS BOURCIERI . . . . . Vol. I. Pl. 25.  
*Trochilus Bourcieri*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 124.  
*Phaethornis Bourcieri*, Id. p. 150.  
*Orthornis Bourcieri*, Bonap. Rev. et Mag. de Zool. 1854, p. 249.  
*Ametrornis Bourcieri*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12; Cab. et Hein. Mus. Hein. Theil iii. p. 10.  
*Habitat.* Cayenne and the adjacent countries.
28. PHAËTHORNIS GUYI . . . . . Vol. I. Pl. 26.  
*Phaethornis Guy*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 150; Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12.  
*Ornismya Guy*, Delatt. Echo du Monde Savant, no. 45, Juin 15, 1843, col. 1069.  
*Guyornis typus*, Bonap. Rev. et Mag. de Zool. 1845, p. 249.  
*Toxoteuches Guyi*, Cab. et Hein. Mus. Hein. Theil iii. p. 11.  
*Habitat.* Trinidad.
29. PHAËTHORNIS EMILIAE.  
*Trochilus Emiliae*, Bourc.  
*Phaethornis Emiliae*, Gray & Mitch. Gen. of Birds, vol. i. p. 104, *Phaethornis*, sp. 7; Bonap. Consp. Gen. Av. vol. i. p. 68, *Phaethornis*, sp. 7.  
*Habitat.* New Granada.
30. PHAËTHORNIS YARUQUI . . . . . Vol. I. Pl. 27.  
*Phaethornis Yaruqui*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12.  
*Guyornis yaruqui*, Bonap. Rev. et Mag. de Zool. 1854, p. 249.  
*Toxoteuches Yaruqui*, Cab. et Hein. Mus. Hein. Theil iii. p. 11, note.  
*Habitat.* Ecuador.

“Upper mandible black; lower deep red, with a black tip; legs and feet reddish.”—*Fraser, Proc. of Zool. Soc.* part xxviii. p. 94.

As the last three species advance in age their tails become shorter, their feathers broader, and the white fringing of the lateral ones almost obsolete.



## 31. PHAËTHORNIS SUPERCILIOSA.

*Phaëthornis Pretrei* . . . . . Vol. I. Pl. 28.

*Polytmus Cayanensis longicaudus*, Briss. Orn. tom. iii. p. 686, 13, tab. 35. fig. 5.

*Trochilus superciliosus*, Linn. Syst. Nat. tom. i. p. 139; Lath. Ind. Orn. tom. i. p. 302; Wied, Beitr. tom. iv. p. 116; "Licht." Nordm. Erm. Reis. Atl. p. 2, 16.

——— *Pretrei*, Delatt. et Less. Rev. Zool. 1839, p. 20.

——— *brasiliensis*, Cab. in Schomb. Reis. Guian. tom. iii. p. 708.

*Phaëthornis Pretrei*, Gray, Gen. of Birds, vol. i. p. 104, *Phaëthornis*, sp. 16, pl. 35; Bonap. Consp. Gen. Av. tom. i. p. 68, *Phaëthornis*, sp. 15.

*Trochilus affinis*, Natt. in Mus. Vindob.

*Phaëthornis affinis*, Pelzeln, Sitz. Acad. Wien, 1857, p. 157.

*Phaëthornis superciliosus*, Cab. et Hein. Mus. Hein. Theil iii. p. 9.

*Habitat.* Eastern Brazil.

As in the case of *P. malaris*, the above list of synonyms is given on the authority of Dr. Cabanis.

## 32. PHAËTHORNIS AUGUSTI . . . . . Vol. I. Pl. 29.

*Phaëthornis Augusti*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12.

*Habitat.* Venezuela.

## 33. PHAËTHORNIS SQUALIDA.

*Phaëthornis intermedius* . . . . . Vol. I. Pl. 30.

*Trochilus squalidus*, "Natt." Temm. Pl. Col. 120. fig. 1; Less. Man. d'Orn. p. 289; Id. Hist. Nat. des. Col. p. 40, pl. 8; Id. Traité d'Orn. p. 289; Jard. Nat. Lib. Humming-Birds, vol. ii. p. 125.

——— *intermedius*, Less. Troch. p. 65, pl. 19; Jard. Nat. Lib. Humming-Birds, vol. ii. p. 123.

——— *leucophrys*, "Licht." Nordm. Erm. Reis. Atl. p. 2, 18.

*Phaëthornis squalidus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 151; Bonap. Consp. Gen. Av. tom. i. p. 68, sp. 11; Burm. Th. Bras. tom. ii. p. 325.

——— *intermedius*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 150; Gray & Mitch. Gen. of Birds, vol. i. p. 104, sp. 8; Bonap. Consp. Gen. Av. tom. i. p. 67, *Phaëthornis*, sp. 8.

——— *leucophrys*, Gray & Mitch. Gen. of Birds, vol. i. p. 104, sp. 4.

——— *brasiliensis*, Gray & Mitch. Gen. of Birds, vol. i. p. 104, sp. 10.

*Ptyonornis intermedia*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12.

*Phaëthornis squalida*, Cab. et Hein. Mus. Hein. Theil iii. p. 8.

*Habitat.* South-eastern Brazil.

We now come to that section to which Bonaparte gave the generic name of *Pygmornis*.

GENUS PYGMORNIS, *Bonap.*

As the term implies, these birds are all extremely diminutive; so minute, indeed, are they, that, if subjected to the balance, their tiny bodies must be weighed by grains. That these mites of birds perform some important office in the scale of nature is certain, from the number both of species and individuals: they are very widely dispersed over every part of the great country which is inhabited by this extensive family of birds; with the exception of one species, however (the *P. Adolphi*), they all fly to the southward of the Isthmus of Panama. How minute must be the insects taken by these diminutive birds, how perfect must be their vision, and how delicately sensitive must be their tongue!

The only external difference between the sexes consists in the longer and more graduated tails of the females; in colour they are as nearly alike as possible.

## 34. PYGMORNIS LONGUEMAREI.

*Phaëthornis Longuemareus* . . . . . Vol. I. Pl. 31.

*Trochilus Longuemareus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 126; Cab. in Schomb. Reis. Guian. tom. iii. p. 709.

*Phaëthornis Longuemareus*, Jard. Nat. Lib. vol. ii. p. 151.

*Pygmornis Longuemarei*, Cab. et Hein. Mus. Hein. Theil iii. p. 7, note.

*Habitat.* Cayenne, Guiana, Trinidad, and the eastern part of Venezuela.

## 35. PYGMORNIS AMAURA.

Phaëthornis Amaura . . . . . Vol. I. Pl. 32.

*Pygmornis amaura*, Cab. et Hein. Mus. Hein. Theil iii. p. 7, note.*Habitat.* Banks of the River Napo.

## 36. PYGMORNIS ASPASIE.

Phaëthornis viridicaudata, *Gould* . . . . . Vol. I. Pl. 33.*Trochilus Aspasie*, Bourc. et Muls. Ann. de la Soc. Linn. de Lyon, tom. iii. 1856.*Trochylus (Polytmus) pygmæus*, Tschudi, Consp. p. 36; Id. Faun. Per. p. 243.*Pygmornis viridicaudata*, Cab. et Hein. Mus. Hein. Theil iii. p. 7, note.*Habitat.* Brazil and Peru.37. PYGMORNIS ZONURA, *Gould*.Phaëthornis zonura, *Gould* . . . . . Vol. I. Pl. 34.*Habitat.* Peru.

## 38. PYGMORNIS ADOLPHI.

Phaëthornis Adolphi, *Bourc.* . . . . Vol. I. Pl. 35.*Pygmornis Adolphi*, "Sallé, MSS." Cab. et Hein. Mus. Hein. Theil iii. p. 7, note.*Habitat.* Central America.

"This," says Mr. Salvin, "is an abundant species in the forest about Yzabal, but the density of the under growth renders it extremely difficult to obtain a shot at so small and active an object. The bird is by no means shy, and takes but little notice of an observer—even searching the flowers almost within arm's reach for the insects and honey therein contained. In movement it is extremely elegant and graceful, and, flitting from flower to flower, shows its beautifully-formed tail conspicuously in every motion. Like all others of its family, it selects a small twig for its perch, giving preference to a dead one. While at rest it trims its feathers dexterously with its bill, which every now and then it cleans by rubbing it first on one side and then on the other of the twig on which it stands."—*Ibis*, vol. i. p. 127.

39. PYGMORNIS GRISEOGULARIS, *Gould*.Phaëthornis griseogularis, *Gould* . . . . . Vol. I. Pl. 36.*Pygmornis griseigularis*, Cab. et Hein. Mus. Hein. Theil iii. p. 8.*Habitat.* New Granada; and Ecuador?

In my description of this species I have inadvertently stated that it has a crescent of black across the breast, which is not the case.

Mr. Bell of New York informs me that he has heard the "little *Pygmornis* of Panama" (by which I believe the present bird is intended) "sing beautifully, the notes forming a soft, shrill, and pretty song."

40. PYGMORNIS STRIIGULARIS, *Gould*.Phaëthornis striigularis, *Gould* . . . . . Vol. I. Pl. 37.*Pygmornis striigularis*, Cab. et Hein. Mus. Hein. Theil iii. p. 7, note.*Habitat.* New Granada.

## 41. PYGMORNIS IDALIE.

Phaëthornis obscura, *Gould* . . . . . Vol. I. Pl. 38.*Trochilus Idaliæ*, Bourc. et Muls. Ann. de la Soc. Linn. de Lyon, tom. iii. 1856.*Pygmornis obscura*, Cab. et Hein. Mus. Hein. Theil iii. p. 7, note.*Habitat.* Brazil.

## 42. PYGMORNIS NIGRICINCTA.

Phaëthornis nigricinctus, *Lawr.* . . . . Vol. I. Pl. 39. fig. 1.*Pygmornis nigricincta*, Cab. et Hein. Mus. Hein. Theil iii. p. 7, note.*Habitat.* The forests bordering the upper part of the River Amazon.



43. PYGMORNIS EPISCOPUS, *Gould*.Phaëthornis Episcopus, *Gould* . . . . . Vol. I. Pl. 39. fig. 2.*Pygmornis episcopus*, Cab. et Hein. Mus. Hein. Theil iii. p. 7, note.*Habitat*. British Guiana.

## 44. PYGMORNIS RUFIVENTRIS.

*Brin blanc jeune âge*, Vieill. Ois. Dor. tom. i. p. 39, pl. 19.*Trochilus rufigaster*, Vieill. Nouv. Dict. d'Hist. Nat. tom. vii. p. 357; Id. Enc. Méth. Orn. part ii. p. 551.——— *Davidianus*, Less. Troch. p. 50, pl. 13; Jard. Nat. Lib. Humming-Birds, vol. ii. p. 127.*Phaethornis davidianus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 151; Gray & Mitch. Gen. of Birds, vol. i. p. 108, sp. 13.——— *rufigaster*, Gray & Mitch. Gen. of Birds, vol. i. p. 108, sp. 12.——— *pygmæus*, Cab. in Schomb. Reis. Guian. tom. iii. p. 708.*Eremita Davidianus*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 11.*Pygmornis davidianus*, Bonap. Rev. et Mag. de Zool. 1854, p. 250.——— *rufiventris*, Cab. et Hein. Mus. Hein. Theil iii. p. 7, note.*Habitat*. Cayenne.

The above list of synonyms are given on the authority of Dr. Cabanis: it is just possible that they may refer to the female of my *P. Episcopus*; but I fear that this cannot at present be satisfactorily determined.

45. PYGMORNIS EREMITA, *Gould*.Phaëthornis Eremita, *Gould* . . . . . Vol. I. Pl. 40.*Trochilus Brasiliensis*, Less. Man. d'Orn. tom. ii. p. 75; Id. Traité d'Orn. p. 289.——— *rufigaster*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 83, pl. 4.*Phaethornis rufigaster*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 151; Burm. Th. Bras. tom. ii. p. 326.*Phaetornis*, sp., Gray & Mitch. Gen. of Birds, vol. iii. App. p. 30 a.*Phaëtornis eremita*, Bonap. Consp. Gen. Av. tom. i. p. 68, *Phaëtornis*, sp. 12.*Eremita rufigaster*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 11.*Pygmornis rufigaster*, Bonap. Rev. et Mag. de Zool. 1854, p. 250.——— *eremita*, Cab. et Hein. Mus. Hein. Theil iii. p. 7.*Habitat*. Northern Brazil, Bahia, the banks of the Lower Amazon.

## 46. PYGMORNIS PYGMÆA.

Phaëthornis pygmæus . . . . . Vol. I. Pl. 41.

*Trochilus Brasiliensis*, Wied, Beitr. tom. iv. p. 111.——— *pygmæus*, Burm. Th. Bras. tom. ii. p. 327.*Eremita pygmæus*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 10.*Pygmornis pygmæa*, Cab. et Hein. Mus. Hein. Theil iii. p. 6.*Habitat*. South-eastern Brazil.

## Subfamily II. TROCHILINÆ.

I commence the second volume with the *Campylopteri*, a group of Humming-Birds distinguished by their great size, by the diversity of their colouring, and by the broad, dilated shafts of the first three primaries or quill-feathers of the males. The members of this group are spread over nearly the whole of the temperate regions of America, from Mexico to the equator, including Brazil, Guiana, Venezuela, and some of the West Indian Islands.

This section of the Trochilidæ comprises several very distinct forms:—one remarkable for a deeply forked tail, for the rich blue colouring of the body, and for the similarity in the outward appearance of the sexes; another for having the tail cuneate; while a third, comprising six or seven species, is distinguished by a very ample and rounded tail. It is for the last form alone that I have retained the generic appellation of *Campylopterus*, applying that of *Eupetomena* to the deeply forked-tailed bird *macroura*, *Sphenoproctus* to the cuneate-tailed *Pampa*, and *Phaeochroa* to the *Cuvieri* and the allied *Roberti*, which may be considered as aberrant, the broad shafts of the primaries (the principal characteristic of the group) being but slightly developed. These birds lead on to *Aphantochroa*.

Genus EUPETOMENA, *Gould*.

(Εὐ, benè, et πετομένη, volans.)

Generic characters.

*Male*.—Bill longer than the head, and slightly arched; *wings* moderate; *shafts* of the first two or three primaries bowed, dilated and flattened; *tail* long and deeply forked; *tarsi* partially clothed; *feet* rather small; *hind toe* shorter than the middle toe.

*Female*.—Similar to the male in plumage.

## 47. EUPETOMENA MACROURA.

*Eupetomena hirundinacea*. . . . . Vol II. Pl. 42.

*Prognornis macroura*, Reichenb. Aufz. der Col. p. 11; Id. Troch. Enum. p. 9, pl. 805. figs. 4873-75.

*Eupetomena macroura*, Bonap. Rev. et Mag. de Zool. 1854, p. 254.

*Cynanthus macrourus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 149.

*Eupetomena macrura*, Cab. et Hein. Mus. Hein. Theil iii. p. 14.

*Ornismya hirundinacea*, Dev. Rev. et Mag. de Zool. 1850, p. 214.

*Habitat*. Brazil, Cayenne, and the neighbouring countries.

M. Deville states that "this Humming-Bird sometimes accompanies the *Chrysolampis moschitus* into the fields, but generally prefers the neighbourhood of the river-banks, where the silky tufts of the *Inga* and the blossoms of the numerous *Lianes* suffice for its wants. It flies very rapidly, has a shrill cry, and is so fearless that it will settle within a few feet of the object which has alarmed it. It is found throughout the whole of Brazil all the year round, but appears to be most numerous in August, September, and October."

Genus SPHENOPROCTUS, *Cab*.

Of this form there are evidently two species—one inhabiting Mexico, and the other Guatemala. It has always been considered by Trochilidists that the 15th Plate of the Supplement to 'Lesson's Histoire Naturelle des Oiseaux-mouches' represents one or other of them, but that he was in error in giving the interior of La Plata as its habitat. I have not been able to see Lesson's type; otherwise I could have ascertained to which of the two it has reference, or whether it is different from both. My figures were taken from Guatemalan specimens, and Lesson's plate would appear to have been taken from an example procured in the same country; consequently the term *Pampa* must be retained for the Guatemalan bird, while for the larger and stouter Mexican birds we must use Lichtenstein's name *curvipennis*.

## 48. SPHENOPROCTUS PAMPA.

*Campylopterus Pampa*, *Less*. . . . . Vol. II. Pl. 43.

*Campylopterus pampa*, Sclat. & Salv. Ibis, vol. i. p. 127; Salv. Ibis, vol. ii. p. 260.

*Habitat*. Guatemala.

## 49. SPHENOPROCTUS CURVIPENNIS.

*Trochilus curvipennis*, Licht. Preis-Verz. Mex. Thier. v. Deppe & Schiede (Sept. 1830), no. 32.

*Sphenoproctus pampa*, Cab. et Hein. Mus. Hein. Theil iii. p. 11.

*Campylopterus pampa*, Montes de Oca in Proc. Acad. Nat. Sci. Philad. 1860, p. 551.

*Habitat*. Mexico.

This species differs from the preceding in its much larger size, and in the paler tint of its blue crown.

"The people of Coatepec, nine miles from Jalapa," says M. Montes de Oca, "give to this species the name of *Chupa-mirto fandanguero*, or Fandango Myrtle-sucker, apparently because it has a somewhat musical voice. It is the only Humming-Bird with which I am acquainted whose notes are sufficient to recognize it by in the woods: though rather monotonous, they are very pleasing. It is occasionally found in the neighbourhood of Jalapa, but it is more abundant at Coatepec. It inhabits the forest in the winter season, and generally feeds on the flowers of the high bushes called *Asasaretos*, which are then in full bloom, and densely covered with smooth emerald-green leaves, amongst which it is very difficult to be detected. Very few are to be seen in summer-time."



Genus *CAMPYLOPTERUS*, *Swains.*

50. *CAMPYLOPTERUS LAZULUS* . . . . . Vol. II. Pl. 44.  
*Ornismya falcata*, Less. Hist. Nat. des Ois. Mou. pp. xlv, 126, pl. 36.  
*Campylopterus lazulus*, Cab. et Hein. Mus. Hein. Theil iii. p. 13.  
*Habitat.* Venezuela, the hilly parts of New Granada generally, and Ecuador, from which latter country I have received specimens through Professor Jameson, collected near Barza.
51. *CAMPYLOPTERUS HEMILEUCURUS*. . . . . Vol. II. Pl. 45.  
*Campylopterus Delattrei* . . . . .  
*Trochilus hemileucurus*, Licht. Preis-Verz. Mex. Thier. v. Deppe & Schiede (Sept. 1830), no. 33.  
*Campylopterus hemileucurus*, Cab. et Hein. Mus. Hein. Theil iii. p. 13.  
——— *Delattrei*, Montes de Oca in Proc. Acad. Nat. Sci. Philad. 1860, p. 47.  
*Habitat.* Mexico and Guatemala.
- “The large and showy tail of this Humming-Bird,” says Mr. Salvin, “makes it one of the most conspicuous when on the wing. It is common at Coban, feeding among the *Salvia*; it is said also to be found in the Volcan de Fuego, but I have not met with it. The females of this species are most abundant, their ratio to the males being as five to two. It is not nearly so shy as its congener, *C. rufus*.”—*Ibis*, vol. ii. p. 260.
- “This beautiful Humming-Bird,” says M. Montes de Oca, “is generally known in Mexico by the name of *Chupa-mirto real azul*, or Royal Blue Myrtle-sucker. It arrives in the vicinity of Jalapa, Coatepec, and Orizaba in considerable numbers during the months of October and November, and is mostly found feeding from a plant called *Masapan*, between the hours of nine and one o’clock. During this time it is seldom seen to alight, and then only for a very short time in any one place, but is constantly on the wing, flitting from flower to flower, describing the segment of a circle in its flight, and sometimes almost touching the ground. For the remainder of the day very few are to be seen, and I think it probable that they visit the woods for certain kinds of mosquitoes, with which I have often found their stomachs well filled.
- “The pugnacity of this species is very remarkable. It is very seldom that two males meet without an aerial battle. The contest commences with a sharp choleric shriek, after which, with dilated throats, the feathers of the whole of their bodies erected on end, and their tails outspread, they begin to fight with their bills and wings, and the least powerful soon falls to the ground or flies away. I have never known one of these battles last longer than about ten seconds; and in the specimens I have had under my notice in cages, their fighting has mostly ended in the splitting of the tongue of one of the two, which then surely dies from being unable to feed.”
52. *CAMPYLOPTERUS ENSIPENNIS* . . . . . Vol. II. Pl. 46.  
*Trochilus latipennis*, Jard. Nat. Lib. Humming-Birds, vol. i. p. 116, pl. 34.  
*Campylopterus latipennis*, Jard. ib. p. 153.  
——— *ensipennis*, Cab. et Hein. Mus. Hein. Theil iii. p. 12.  
*Habitat.* The Island of Tobago.
- On reference to my account of *Campylopterus Villavicencio*, it will be seen that I was inclined to believe the *C. splendens* of M. Lawrence to be identical with that bird; but on reconsidering the matter, and observing how numerous and how closely allied are the species of the genus *Campylopterus*, I now think it probable that it is really distinct. The throat in *C. splendens* is beautiful blue, and the abdomen washed with green; while in *C. Villavicencio*, the whole of the under-surface is pure grey. Both these birds have fine metallic-green crowns, which circumstance induced me to believe that they were opposite sexes of one and the same species, and it is possible that they may yet prove to be so; but for the present I shall regard them as distinct.
53. *CAMPYLOPTERUS SPLENDENS*, *Lawr.* . . . . Vol. II. Pl. 47 (Upper fig.).  
*Campylopterus splendens*, Lawr. in Ann. Lyc. Nat. Hist. New York, vol. vi. p. 262.  
*Habitat.* The forests between the upper waters of the Napo and Quito.
54. *CAMPYLOPTERUS VILLAVICENCIO* . . . . . Vol. II. Pl. 47 (Lower fig.).  
*Habitat.* Forests bordering the Rio Napo in Ecuador.

55. *CAMPYLOPTERUS LATIPENNIS* . . . . . Vol. II. Pl. 48.

*Campylopterus latipennis*, Cab. in Schomb. Reis. Guian. tom. iii. p. 709.

——— *largipennis*, Cab. et Hein. Mus. Hein. Theil iii. p. 12.

*Habitat.* Cayenne and British Guiana.

In my account of *C. latipennis* I have stated my belief that another species of that particular form would be found to inhabit Ecuador, as I have in my collection a specimen received direct from Quito which does not accord with *C. latipennis* nor with the bird I have called *C. obscurus*. The tipping of the two or three outer tail-feathers of this Ecuadorian bird is about a quarter of an inch in length. Judging from the form of the shafts of the primaries, it appears to be a female or a young male; and had I not seen very many specimens of *C. latipennis*, I should have supposed it to belong to that species. The bill is a little longer than that of *C. latipennis*, and so also are the wings; as in that species, all the under-surface is pure grey, while the upper part of the body is uniform green. I believe that two specimens from the same country are in the Loddigesian collection. Provisionally, I propose for this bird the name of *C. Æquatorialis*.

56. *CAMPYLOPTERUS ÆQUATORIALIS*, Gould.

*Habitat.* Ecuador.

57. *CAMPYLOPTERUS OBSCURUS*, Gould . . . . . Vol. II. Pl. 49.

*Habitat.* Forests bordering the Lower Amazon.

58. *CAMPYLOPTERUS RUFUS*, Less. . . . . Vol. II. Pl. 50.

*Platystylopterus rufus*, Reichenb. Aufz. der Col. p. 11; Id. Troch. Enum. p. 8, pl. 788. figs. 4834–35.

*Habitat.* Guatemala.

Mr. Salvin noticed that, during the first season of his residence in Guatemala, this species was so scarce at Dueñas that he was induced to believe it to be an inhabitant of a higher district, especially as it was more numerous about Atitlan. The next year it was just as abundant, and, instead of being one of the rarest, was one of the most familiar species. He adds that the flowers of the Banana (*Musa*) were much resorted to by this bird.

59. *CAMPYLOPTERUS HYPERYTHRUS*, Cab. . . . . Vol. II. Pl. 51.

*Campylopterus hyperythrus*, Cab. in Schomb. Reis. Guian. tom. iii. p. 709.

*Platystylopterus hyperythrus*, Reichenb. Aufz. der Col. p. 11; Id. Troch. Enum. p. 8, pl. 789. figs. 4836–38.

*Loxopterus hyperythrus*, Cab. et Hein. Mus. Hein. Theil iii. p. 13.

*Habitat.* The Roraima Mountains, in the interior of British Guiana.

#### Genus *PHŒOCHROA*, Gould.

(Φαῖος, fuscus; et Χρῶα, color.)

Generic characters.

*Male*.—*Bill* longer than the head, and slightly arched; *wings* large; the *shafts* of the first and second primaries slightly dilated; *tail* moderately long and square, or very slightly rounded; *tarsi* partially clothed; *feet* rather large; *hind toe* shorter than the middle toe; *claws* short.

60. *PHŒOCHROA CUVIERI*.

*Campylopterus Cuvieri* . . . . . Vol. II. Pl. 52.

*Aphantochroa Cuvieri*, Cab. et Hein. Mus. Hein. Theil iii. p. 14.

*Habitat.* Venezuela, New Granada, Panama, and Veragua.

61. *PHŒOCHROA ROBERTI* . . . . . Vol. II. Pl. 53.

*Habitat.* Vera Paz Mountains in Guatemala.

We next arrive at a genus characterized by a very sombre style of colouring. It will be seen that I have proposed the generic appellation of *Aphantochroa* for the *Trochilus cirrhochloris* of Vieillot. I have since added another species to this form under the name *A. gularis*. Up to the present moment (July 1861) no second specimen of this bird has been sent to Europe: when we receive others, it may be necessary to institute a still further



subdivision ; but at present I do not know of any genus in which the bird could be more correctly placed than the one to which I have assigned it.

Genus APHANTOCHROA, Gould.

(*Ἀφαντρος*, obscurus, et *χρῶα*, color.)

Generic characters.

*Male*.—*Bill* stout, rather longer than the head, and slightly arched ; *wings* broad and moderately long ; *tail* square and moderately large ; *tarsi* clothed ; *hind toe* rather short.

Sexes alike in the sombre colouring of the plumage.

62. APHANTOCHROA CIRRHOCOLORIS . . . . . Vol. II. Pl. 54.  
*Campylopterus campylostylus*, Burm. Th. Bras. ii. p. 329. 2.  
*Aphantochroa cirrochloris*, Reich. Aufz. der Col. p. 15 ; Id. Troch. Enum. p. 12 ; Cab. et Hein. Mus. Hein. Theil iii. p. 14.  
*Habitat*. Brazil.
63. APHANTOCHROA GULARIS, Gould . . . . . Vol. II. Pl. 55.  
*Habitat*. Banks of the Napo.

Genus DOLERISCA, Cab.

The typic species of this form is the *Trochilus fallax* of M. Bourcier, a bird distinguished by its tawny-coloured breast, and by the white tipplings of its outer tail-feathers. I wish it to be understood that I do not include in this genus the *albicollis* or the *chionogaster*, which have been inadvertently figured as pertaining to it. At the same time were I to state that the genus is confined to a single species, I believe that I should be leading ornithologists into error ; for I have a specimen which, I think, will prove to belong to a second. The example in question, although bearing all the general characteristics of the *D. fallax*, differs in some minor details, and I shall therefore provisionally propose for it the specific name of *cervina*.

64. DOLERISCA FALLAX.  
*Leucippus fallax* . . . . . Vol. II. Pl. 56.  
*Dolerisca fallax*, Cab. et Hein. Mus. Hein. Theil iii. p. 6.  
*Habitat*. Venezuela.
65. DOLERISCA CERVINA, Gould.  
*Habitat*. Unknown.

This new species is larger than the *D. fallax* in all its admeasurements, and has a less amount of white on the tips of the outer tail-feathers. In *D. fallax* these greyish-white tipplings occupy both webs of the apical portion of each of the three outer feathers, while in the *cervina* the inner webs only are thus marked ; these marks are about three-eighths of an inch long on the outer feather, a quarter of an inch on the next, and but a little more than an eighth on the third ; the upper mandible in *D. cervina* is reddish brown, while in *D. fallax* the upper one is black. The habitat of the latter is well known to be Venezuela, but that of the former has yet to be ascertained.

Genus UROCHROA Gould.

(*Οὐρῶα*, cauda, et *χρῶα*, color.)

Generic characters.

*Male*.—*Bill* lengthened and straight, or slightly arched ; *wings* moderately long and pointed ; *tail* square ; *tarsi* partly clothed ; *hind toe* as long as the middle toe ; *nails* short.

*Female*.—Unknown.

Of this remarkable form only one species is at present known.

66. UROCHROA BOUGUERI . . . . . Vol. II. Pl. 57.  
*Habitat*. Nanegal, in Ecuador.

Genus STERNOCLYTA, *Gould*.

(Στέρνον, pectus, et κλυτός, insignis.)

Generic characters.

*Male*.—Bill unusually large, rather arched, and much longer than the head; *wings* ample; *tail* moderate and rounded; *tarsi* partly clothed; *feet* moderate; *throat* and *breast* luminous.

*Female*.—Unadorned.

Three outer tail-feathers tipped with white in both sexes.

67. STERNOCLYTA CYANEIPECTUS, *Gould* . . . . . Vol. II. Pl. 58.

*Polytmus cyanopectus*, Gray & Mitch. Gen. of Birds, vol. i. p. 108. *Polytmus*, sp. 22.

*Sternoclyta cyanipectus*, Cab. et Hein. Mus. Hein. Theil iii. p. 13, note.

*Habitat*. The province of La Guayra in Venezuela.

We now proceed to the genera *Delattria*, *Cæligena*, *Lamprolæma*, *Eugenes*, and their allies, all of which are peculiar to Central America; at least, so far as is yet known, none of them have been found to the southward of the Isthmus; even Veragua, so far as we are aware, is not tenanted by any one of them.

It may be considered by some ornithologists that here the subdivision of genera has been carried too far; but having once broken ground, and separated the old genus *Trochilus*, it would be inconsistent to place together in one genus all the members of this Central American group of Humming-Birds; for while a certain degree of unity pervades them, no generic character could be found which could be applicable to the whole. This instance will serve most efficiently to illustrate the great diversity of closely allied forms which occur in the great family of Humming-Birds. We frequently find groups, like the present, so diversified that nearly every species demands a generic title, while in such genera as *Thalurania*, *Petasophora*, and *Aglæactis*, the species, though as distinct as they well can be, possess characters common to all.

I commence with the

Genus EUGENES, *Gould*.

(Εὐγενής, nobilis.)

Generic characters.

*Male*.—Bill straight, longer than the head; *wings* long and pointed; *tail* moderate and very slightly forked; *tarsi* clothed; *feet* rather small; *hind toe* about equal in length to the middle one; *crown* and *throat* luminous.

*Female*.—Unadorned.

Of this form only one species is known; it is a native of Guatemala and Southern Mexico, and is distinguished from its allies by the gorgeous colouring of its crown and breast. It is in the possession of a luminous crown, and other characters, that this bird differs from that immediately following.

68. EUGENES FULGENS . . . . . Vol. II. Pl. 59.

*Coeligena fulgens*, Reichenb. Troch. Enum. p. 3, pl. 686. figs. 4513-14.

*Eugenes fulgens*, Cab. et Hein. Mus. Hein. Theil iii. p. 20.

*Trochilus melanogaster*, Licht. in Mus. Berlin.

——— *Rivoli*, Swains. Birds of Brazil, pl. 76.

*Habitat*. Mexico and Guatemala.

"This species," says Mr. Salvin, "is rare at Coban. The western boundary of the Llaño of Dueñas is the spot where I have found it in the greatest numbers; indeed, with two exceptions, I have never met with it elsewhere. It is a most pugnacious bird. Many a time have I thought to secure a fine male, which I had perhaps been following from tree to tree, and had at last seen quietly perched on a leafless twig, when my deadly intention has been anticipated by one less so in fact, but to all appearance equally so in will. Another Humming-Bird rushes in, knocks the one I covet off his perch, and the two go, fighting and screaming, away at a pace hardly to be followed by the eye. Another time this flying fight is sustained in mid air, the belligerents mounting higher and higher till the one worsted in battle darts away, seeking shelter, followed by the victor, who never relinquishes the pursuit till the vanquished, by doubling and hiding, succeeds in making his escape. These fierce raids are not waged alone



between members of the same species. *Eugenes fulgens* attacks with equal ferocity *Amazilia dumerilii*, and, animated by no high-souled generosity, scruples not to tilt with the little *Trochilus colubris*. I know of hardly any species that shows itself more brilliantly than this when on the wing; yet it is not to the midday sun that it exhibits its splendour. When the southerly wind brings clouds and driving mist between the volcanos of Agua and Fuego, and all is as in a November fog in England, except that the yellow element is wanting, then it is that *Eugenes fulgens* appears in numbers; *Amazilia Devillei*, instead of a few scattered birds, is to be seen in every tree, and *Trochilus colubris* in great abundance: such animation awakes in Humming-Bird life as would hardly be credited by one who had passed the same spot an hour or two before; and the flying to and fro, the humming of wings, the momentary and prolonged contests, and the incessant battle-cries seem almost enough for a time to turn the head of a lover of these things. I have fifteen males from Dueñas to one female.”—*Ibis*, vol. ii. p. 261.

Following the *Eugenes fulgens* is the softly-coloured *Delattria Clemenciæ* of my work, the proper name of which is *Cæligena Clemenciæ*, it being the type of the

Genus CÆLIGENA, Less.

69. CÆLIGENA CLEMENCIÆ, Less. . . . . Vol. II. Pl. 60.  
Delattria Clemenciæ . . . . .  
*Campylopterus Clemenciæ*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 154.  
*Trochilus lucidus*, Licht. in Mus. of Berlin.  
*Cœligena Clemenciæ*, Reichenb. Troch. Enum. p. 3, pl. 687. fig. 4516; Cab. et Hein. Mus. Hein. Theil iii. p. 15.  
*Habitat.* Mexico, where it is far from common.

The

Genus LAMPROLÆMA, Reichenb.

was instituted for the truly beautiful bird known as De Rham’s Garnet.

70. LAMPROLÆMA RHAMI . . . . . Vol. II. Pl. 61.  
*Trochilus fulgidus*, Licht. in Mus. of Berlin.  
*Lamprolaema Rhami*, Cab. et Hein. Mus. Hein. Theil iii. p. 30.  
*Habitat.* Guatemala.

We now come to the

Genus DELATTRIA, Bonap.

as restricted to the *D. Henrici* and *D. viridipallens*, both of which species are natives of Guatemala

71. DELATTRIA HENRICI . . . . . Vol. II. Pl. 62.  
*Lamprolaima Henrici*, Reichenb. Aufz. der Col. p. 9.  
*Heliodoxa Henrici*, Reichenb. Troch. Enum. p. 6, pl. 742. figs. 4701-3.  
*Habitat.*—Guatemala.
72. DELATTRIA VIRIDIPALLENS . . . . . Vol. II. Pl. 63.  
*Habitat.* Guatemala.

“Occurs, in company with *Petasophora thalassina*, on the Volcan de Fuego. Seems to keep entirely to the forests of the volcano. I have never met with it in the plains below. This is one of the commonest species at Coban. It may readily be recognized by the peculiar harshness of its note.”—*Salvin in ‘Ibis,’* vol. ii. pp. 40, 263.

Near to these are the members of the

Genus HELIOPÆDICA, Gould.

(Ἡλιος, sol, et παιδικός, juvenilis.)

Generic characters.

*Male.*—*Bill* straight, and rather longer than the head; *head* round, or with the feathers not advancing on the

bill; tail slightly rounded, the feathers broad; tarsi clothed; hind toe shorter than the middle one; head and breast luminous.

*Female*.—Unadorned.

This genus comprises two species, both of which are natives of Central America, Mexico, and Southern California; they are somewhat diminutive in size, and possess the white mark behind the eye which occurs in most of the members of the genera of this section of the Trochilidæ.

73. HELIOPÆDICA MELANOTIS . . . . . Vol. II. Pl. 64.

*Trochilus leucocrotaphus*, Shaw (Cabanis).

— *cuculliger*, Licht. Preis-Verz. Mex. Thier. v. Deppe & Schiede (Sept. 1830), no. 29, 31.

*Trochilus leucotis*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 144.

*Hylocharis leucotis*, Gray & Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 28.

*Heliopectica melanotis*, Sclat. & Salv. Ibis, vol. i. p. 130.

*Basilinna leucotis*, Cab. et Hein. Mus. Hein. Theil iii. p. 45.

*Trochilus lucidus*, Shaw? Gen. Zool. vol. viii. p. 327.

*Mellisuga lucida*, Steph. Cont. of Shaw, Gen. Zool. vol. xiv. p. 247.

*Sapphirionia lucida*, Sallé, Liste des Oiseaux; Sclat. Proc. Zool. Soc. part xxvi. p. 297, and part xxvii. p. 386.

*Habitat*. Guatemala and Mexico.

I observe that specimens from Guatemala are much smaller than those from Mexico; but as the colouring and disposition of the markings are precisely similar, I regard them as races only.

M. Sallé, in his 'List of the Birds of Mexico,' has assigned to one of them the name of *lucidus* of Shaw, believing it to be an earlier name for this bird than *melanotis* or *Arsenni*. This list has been followed by Dr. Sclater in his papers on the birds received by M. Sallé from and collected by M. Boucard in Oaxaca; but as Shaw's description of *lucidus*, as well as the country in which it is said to be found (Paraguay), does not accord with that of *melanotis*, that name must sink into a synonym.

"In some of the open savannahs scattered among the oak-forests of the Volcan de Fuego near Calderas, this species is not uncommon; I have also frequently met with it in some of the 'barrancos' of the same volcano. The white mark running from the eye and the deep coral-red of the bill show conspicuously in the living bird. It is a very shy species. A single specimen was shot near Coban, and another was brought to me from the mountains of S. Cruz, near San Gerónimo."—*Salvin in Ibis*, vol. ii. p. 271.

74. HELIOPÆDICA XANTUSI . . . . . Vol. II. Pl. 65.

*Habitat*. Southern California.

If I have extolled the members of the genus *Cometes* as being among the most gorgeous birds in existence with regard to the colouring of their tails, in like manner I may pronounce the *Topazæ*, which now claim our notice, to be as remarkable for their lustrous throat-marks.

One of these beautiful birds, the *Topazæ Pella*, is an inhabitant of Cayenne and the adjacent countries; while another, the *T. Pyra*, flies in the forests of the Upper Rio Negro.

Genus TOPAZA, G. R. Gray.

75. TOPAZA PELLA . . . . . Vol. II. Pl. 66.

*Trochilus paradiseus*, Linn. Syst. Nat. tom. i. p. 189.

*Lampornis pella*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 155.

*Habitat*. Cayenne and the adjacent countries.

I find that specimens from Demerara have more richly-coloured throat-marks than those procured in Cayenne; there is also another variety distinguished by the great breadth of their lengthened tail-feathers; but these differences are not of specific importance.

76. TOPAZA PYRA . . . . . Vol. II. Pl. 67.

*Habitat*. The Upper Rio Negro.

It is only at a comparatively recent date that we became acquainted with the birds for which I proposed the



term *Oreotrochilus*. D'Orbigny introduced to us the *O. Estellæ* and *O. Adelæ*; while in 1846 the fine *O. Chimborazo* was brought to light through the researches of M. Bourcier; in 1849 the same gentleman made us aware of the existence of the little less beautiful *O. Pichincha*, and I, on my own part, had the pleasure of making known the *O. melanogaster* and *O. leucopleurus*. All these birds inhabit loftier elevations than any other genus of Humming-Birds; for they love to dwell in regions just beneath the line where the melting snows and the warmth of the sun call forth an alpine flora and a peculiar character of insect life; and I question if any other insessorial birds seek their food at so great an elevation as the *O. Chimborazo* and *O. Pichincha*. As far as our present knowledge extends, no species has been found to the northward of Ecuador, while to the south they range along the high lands of Peru and Bolivia.

Genus OREOTROCHILUS, Gould.

("Ὀρος, mons, et τροχίλος, trochilus; Mountain Humming-Bird.)

Generic characters.

*Male*.—*Bill* longer than the head, almost cylindrical, and slightly incurved; *wings* rather long and powerful; *tail* large, the feathers narrow and rigid; *tarsi* clothed; *feet* strong; *hind toe* and *nail* about the same length as the middle toe and nail; *throat* luminous.

*Female*. Unadorned.

77. OREOTROCHILUS CHIMBORAZO . . . . . Vol. II. Pl. 68.

*Orotrochilus Chimborazo*, Cab. et Hein. Mus. Hein. Theil iii. p. 15, note.

*Habitat*. Immediately below the snow-line round the cone of the volcanic mountain Chimborazo.

Mr. Fraser, who killed many examples at Panza, at an altitude of 14,000 feet, says, "Irides hazel; bill, legs, and feet black. To be seen occasionally on the *Arbor Maria*, but feeds generally on a red thistle. It is common, and by no means shy, and has rather a pretty song, oft repeated, and to be heard at a considerable distance. In bad weather, when the wind is high, this bird is said to creep under and into the clumps of *Paja* (a species of *Stipa*)."

78. OREOTROCHILUS PICHINCHA . . . . . Vol. II. Pl. 69.

*Orotrochilus Pichincha*, Cab. et Hein. Mus. Hein. Theil iii. p. 15.

*Habitat*. The snow-line of the volcanic mountains of Pichincha and Cotopaxi in Ecuador.

"Guagua and Ruco Pichincha (14,000 feet alt.), many examples. The Pichincha Humming-Bird, like the Chimborazo, is found only close under the line of perpetual snow; but this species, according to the present state of our knowledge, is more widely distributed than the latter, being found not only on Pichincha, but also on Antisana and Cotopaxi. Upon my first visit to Guagua Pichincha these birds were feeding entirely on the ground, hunting the little moss-covered clumps as fast as the snow melted. They are not uncommon in this locality, but always met with singly. They are very restless, but not shy, seldom remaining on one clump more than a second, then away to another, perhaps a yard distant. Sometimes they would take a rapid flight of 40 or 50 yards. On my second visit, the Chuquiragua (*Chuquiraga insignis*, Humb.) being in flower, they were feeding from it like the *Quindi* of Chimborazo, but still occasionally hunted the mossy clumps. They flit with a *burr* of the wings, and occasionally settle, with the feathers all ruffled, on the top of the Chuquiragua or other small plant. In this respect, so far as my observations and those of Professor Jameson go, they differ from *O. Chimborazo*.

"June 5. No snow on the ground, and all birds were apparently scarce and shyer; these birds in particular were chasing each other, in twos and threes, like flashes of lightning."—*Fraser in Proc. of Zool. Soc.* part xxviii. p. 79.

79. OREOTROCHILUS ESTELLÆ . . . . . Vol. II. Pl. 70.

*Orotrochilus Estellæ*, Cab. et Hein. Mus. Hein. Theil iii. p. 16.

*Habitat*. The high lands near La Paz in Bolivia.

80. OREOTROCHILUS LEUCOPLEURUS, Gould . . . . . Vol. II. Pl. 71.

*Orotrochilus leucopleurus*, Cab. et Hein. Mus. Hein. Theil iii. p. 16.

"*Oreotrochilus leucopterus*, Reichenb.", Cab. et Hein. ib.

*Trochilus Milleri*, Lodd. MS.; Fraser in *Proc. of Zool. Soc.* part xi. p. 114.

*Habitat*. The Chilian Andes.

"This beautiful and rare species of Humming-Bird," says Mr. Bridges, "is only found in the elevated valleys of the Andes, residing amongst storms of hail, rain, and thunder, and in places where the naturalist would least expect to find a species of *Trochilus*. It subsists more upon small flies than upon the nectar of flowers. On examination of the crops I found them filled with flies, which they take before sun-down along the margin of the mountain rivulets. Specimens were taken at Los Ojos de Agua, province of Aconcagua, at an elevation of from 6000 to 8000 feet, and I saw them at least 1000 feet above that place. Iris brown."—*Proc. Zool. Soc.* part xi. p. 114.

Dr. Philippi met with this bird at Hueso Parado in Northern Chili, at an elevation of not more than 1000 feet above the sea-level.

81. *OREOTROCHILUS MELANOGASTER*, *Gould* . . . . . Vol. II. Pl. 72.  
*Orotrochilus melanogaster*, Cab. et Hein. Mus. Hein. Theil iii. p. 15, note.  
*Habitat*. The high lands of Peru; precise locality unknown.
82. *OREOTROCHILUS ADELE* . . . . . Vol. II. Pl. 73.  
*Orotrochilus Adela*, Cab. et Hein. Mus. Hein. Theil iii. p. 15, note.  
*Habitat*. Bolivia; the high lands around Chuquesaca being one of its localities.

I now proceed to the

#### Genus *LAMPORNIS*, *Swains*.

This genus comprises many species, some of which inhabit the West Indian Islands, and others the mainland. The best-known among them, the *Lampornis Mango*, has a wider range than any of the others, as will be seen on reference to my account of that species. They are all distinguished by the harmonious colours of their ample tails, which are even more beautiful in the females than in the males.

83. *LAMPORNIS MANGO* . . . . . Vol. II. Pl. 74.  
*Trochilus punctatus*, Vieill. Ency. Méth. Orn. part ii. p. 550 (young).  
—— *lazulus*, Less. Traité d'Orn. p. 290.  
*Lampornis Mango*, Cab. et Hein. Mus. Hein. Theil iii. p. 19.  
*Habitat*. The eastern part of Brazil, Trinidad, Venezuela, and the high lands of New Granada.

84. *LAMPORNIS IRIDESCENS*, *Gould*.

This is the bird from Guayaquil which I have spoken of in my account of *L. Mango* as differing from the Mangos of the other parts of America. The chief differences are a rather shorter tail and a glittering wash of blue and green on the throat, instead of that part being velvety black; there is also a greater amount of green on the flanks. Three specimens of this bird were killed and sent to me by Professor Jameson during one of his visits to the coast.

*Habitat*. Guayaquil.

85. *LAMPORNIS PREVOSTI* . . . . . Vol. II. Pl. 75.  
*Habitat*. Guatemala and Honduras.
86. *LAMPORNIS VERAGUENSIS*, *Gould* . . . . . Vol. II. Pl. 76.  
*Anthracothonax Veraguensis*, Reichenb. Troch. Enum. p. 9, pl. 793. fig. 4848.  
*Lampornis Veraguensis*, Cab. et Hein. Mus. Hein. Theil iii. p. 18.  
*Habitat*. Veragua and Costa Rica.

Mr. Bridges "found this species in the outskirts of the town of David, feeding among the flowers of a large arborescent species of *Erythrina*."

87. *LAMPORNIS GRAMINEUS* . . . . . Vol. II. Pl. 77.  
*Anthracothonax dominicus*, Reichenb. Troch. Enum. p. 9, pl. 792. figs. 4845-46.  
*Lampornis graminea*, Cab. et Hein. Mus. Hein. Theil iii. p. 18.  
*Habitat*. Trinidad, Cayenne, and Guiana.
88. *LAMPORNIS VIRIDIS* . . . . . Vol. II. Pl. 78.  
*Chalybura viridis*, Reichenb. Aufz. der Col. p. 10.  
*Agyrtria viridis*, Reichenb. Troch. Enum. p. 7, pl. 765, figs. 4771-72.  
*Habitat*. Porto Rico.



89. LAMPORNIS AURULENTUS . . . . . Vol. II. Pl. 79.  
*Habitat.* St. Domingo.

90. LAMPORNIS VIRGINALIS, Gould . . . . . Vol. II. Pl. 80.  
Crown and all the upper surface bronzy green; wings light purplish brown; throat shining greenish wax-yellow; chest and centre of the abdomen black, passing into green on the flanks; upper tail-coverts brilliant bronzy green; two centre tail-feathers rich bronze, the remainder fine purple, margined and tipped with bluish black; bill black; feet dark brown.

Total length  $4\frac{1}{2}$  inches; bill  $\frac{1}{8}$ ; wing  $2\frac{3}{8}$ ; tail  $1\frac{1}{2}$ ; tarsi  $\frac{1}{4}$ .

*Habitat.* The Island of St. Thomas.

If I have led my friend, Alfred Newton, Esq., into an error, by causing him to state that the St. Thomas bird is identical with the *Lampornis aurulentus*, it was quite unintentional on my part. Since we made an examination and comparison of specimens of *L. aurulentus* from St. Domingo, with those, which we believed to be identical, from St. Thomas, I have received numerous other examples from the latter island, a careful consideration of which induces me to regard them as distinct; and as such, I have described them under the name of *Lampornis virginalis*. The difference between this new species and *L. aurulentus* is very marked: it is of much smaller size, and has a shorter, more square, and differently-coloured tail, the two centre-feathers being rich bronze instead of purplish black; the throat-mark is richer; the upper tail-coverts are very much finer and more brilliant; and the bill is shorter.

91. LAMPORNIS PORPHYRURUS . . . . . Vol. II. Pl. 81.  
*Anthracothorax porphyurus*, Reichenb. Troch. Enum. p. 8, pl. 794. figs. 4849-50.  
*Lampornis porphyrura*, Cab. et Hein. Mus. Hein. Theil iii. p. 19.  
*Habitat.* Jamaica.

This species differs from all its allies in the female and the young male assimilating to the adult male in the colour of the tail, which is quite contrary to what occurs in the females of the other species; unlike them also, the female of this species has a different and more beautiful gorget than the male. This is one of the anomalies which cannot be explained, inasmuch as in structure, in size, and other characters it is a true *Lampornis*.

The genus *Eulampis* now claims our attention. It is composed of four species, the distinguishing features of which are their luminous upper tail-coverts. These broad and glittering feathers, resembling plates of shining metal, have doubtless been designed for no special purpose connected with the habits of the bird, but for mere ornament; but such characters, trifling though they be, are of no little use in enabling us to group together nearly allied species. It will be recollected that in some genera—that of *Hypuroptila* for instance—the under and not the upper tail-coverts are extraordinarily developed; and many other instances might be cited of a similar development of other parts of the plumage, for which no other use but that of mere ornament can be conceived. The members of this genus differ from most others in the perfect similarity in the colouring of the sexes. So far as I am aware, they are all confined to the West Indian Islands.

Genus EULAMPIS, Boié.

92. EULAMPIS JUGULARIS . . . . . Vol. II. Pl. 82.  
*Eulampis jugularis*, Cab. et Hein. Mus. Hein. Theil iii. p. 17.  
*Habitat.* The Islands of Nevis and Martinique.

93. EULAMPIS HOLOSERICEUS . . . . . Vol. II. Pl. 83.  
*Anthracothorax holosericeus*, Reichenb. Troch. Enum. p. 9, pl. 793. fig. 4847.  
*Trochilus atrigaster*, "Shaw," Cabanis.  
*Eulampis holosericea*, Cab. et Hein. Mus. Hein. Theil iii. p. 17.  
*Habitat.* Islands of Nevis? and Martinique?

94. EULAMPIS CHLOROLÆMUS, Gould . . . . . Vol. II. Pl. 84.  
*Anthracothorax chlorolaimus*, Reichenb. Troch. Enum. p. 9.  
*Eulampis chlorolaema*, Cab. et Hein. Mus. Hein. Theil iii. p. 17, note.  
*Habitat.* The Islands of St. Thomas and St. Croix.

"This bird," says Mr. Edward Newton, speaking of the Humming-Birds of St. Thomas and St. Croix, "breeds from the end of March to the end of June. It is an easy matter to find its nest; for on approaching within two or three yards of where it is, the bird, if it is on, is sure to fly at you, and then retreating, remains suspended a few seconds just above your head, when it darts off and perches on some dead twig, most likely on the very tree which holds its nest. It does not stay here long, but takes short flights into the air, returning to the same place and, when there, showing its impatience by a continual flirting, or rather twitching, of its wings. If you then retire, keeping your eye on the bird, it will presently dart straight on to its nest, leaving it, however, at the least movement on your part. This species is not particular as to the tree on which it builds, as I have found nests on the Silk-cotton, Mango, Manchioneel, and Avocado Pear (*Laurus persea*, Linn.). They are placed on a horizontal branch, from half an inch to two inches thick, and are composed of cotton or the down of a species of *Cactus*, studded on the outside with white Lichen or shreds of bark, the whole structure measuring nearly two inches across, and built at the height of from about five to fifteen feet from the ground, sometimes concealed by leaves, at others on an almost naked bough."—*Ibis*, vol. i. p. 140.

Mr. Newton informs me that the yellow of the base of the bill and gape of this bird shows rather conspicuously.

95. *EULAMPIS LONGIROSTRIS*, *Gould*.

In its size, general plumage, and style of colouring, this bird is very similar to the *E. chlorolæmus*; but the much greater length and curvature of its bill will, I am sure, satisfy the most sceptical that it is quite distinct. I possess two examples of this, both of which are unfortunately in a very bad state of plumage. One of these was presented to me by my valued friend Sigismund Rucker, Esq., the other I obtained on the Continent; I could gain no information whatever as to its native locality. The average length of the bill in *E. chlorolæmus* is three-quarters of an inch, while that of *E. longirostris* is nearly an inch and a quarter.

*Habitat*. Unknown.

There is scarcely a more isolated form in the family of Trochilidæ than that for which the generic name of *Lafresnaya* was proposed by Bonaparte in honour of the venerable Baron de Lafresnaye; and it gives me great pleasure to assist in perpetuating the name of a French nobleman, lately deceased, who devoted the leisure hours of a long life to the pleasing study of natural history.

Strictly confined to the Andes, one of the species is quite equatorial, the others fly several degrees further north. The males are very boldly coloured, the brilliant green of their throats and flanks being beautifully relieved by the velvety black of the abdomen. The females have none of these contrasted colours, their entire under-surface being spangled with green on a white or a buff ground. The species known are very much alike except in the colouring and markings of the tail,—one of them having the four outer feathers white tipped with purplish black, while the same feathers in another are buff tipped with bronzy brown, and the tail of the third is white tipped with greenish bronze.

Genus *LAFRESNAYA*, *Bonap.*

96. *LAFRESNAYA FLAVICAUDATA* . . . . . Vol. II. Pl. 85.

*Entima Lafresnayi*, Cab. et Hein. Mus. Hein. Theil iii. p. 51.

*Habitat*. The high lands of New Granada. Common at Bogota and Popayan; and probably in the northern parts of Ecuador.

97. *LAFRESNAYA GAYI* . . . . . Vol. II. Pl. 86.

*Entima Gayi*, Cab. et Hein. Mus. Hein. Theil iii. p. 51.

*Habitat*. Ecuador and Peru.

98. *LAFRESNAYA SAULÆ*.

*Trochilus Saulæ*, Bourc. Rev. Zool. 1846, p. 309.

*Calothorax Saulii*, Gray & Mitch. Gen. of Birds, vol. i. p. 110, *Calothorax*, sp. 3.

*Lafresnaya Saulæ*, Bonap. Consp. Gen. Av. tom. i. p. 68, *Lafresnaya*, sp. 3.

——— *Saul*, Reichenb. Aufz. der Col. p. 11.

*Habitat*. Unknown: supposed to be Popayan.

Since writing my account of *Lafresnaya Gayi* I have received many additional examples, all of which had white tails tipped with purplish black; but I possess fully adult examples of a white-tailed bird named *Saulæ*, by M. Bourcier, in which the tippings are bronzy green. My specimens were brought by Delattre; but from what locality, is unknown. The difference mentioned seems to warrant the belief that the bird is distinct; and I therefore give it a place in this synopsis, notwithstanding the opinion to the contrary expressed in my account of *L. Gayi*.

Those who have not closely studied the Humming-Birds have but little idea how diversified are their forms; the birds next to be considered are unlike all the other members of the family. The species are short, thick-set birds, with a very peculiar style of plumage, have their crowns plated with metal-like feathers, and bills as straight and sharp as needles; and woe to any bird, I should say, which gave offence to the members of this genus.

I am exceedingly puzzled with respect to the species of this form; that is, I am at a loss to determine whether they are two, three, four, or five in number. First, with regard to *D. Johannæ*, whose under-surface is black, and frontal mark violet-blue; I have always regarded this colouring as indicative of the adult, but I am in doubt whether the skins which frequently accompany them from Bogota, and which assimilate in size and form, but differ in having a green frontlet and a dull-green upper and under surface, are the females or young males of this bird, or if they be distinct. Of the *D. Ludovicæ*, which comes from Bogota, I have many examples, all of which are very uniform in size and style of colouring. From Quito I have another bird assimilating to the *D. Ludovicæ* most closely in colouring, but which is about a fifth larger in all its admeasurements. Accompanying the specimens from this latter locality is one without any frontal mark whatever; in other respects it is precisely like the rest, and, I am sure, is a fully adult bird. Is this the female of the Quitan birds, or a distinct species? I have never seen examples in this state of plumage among the numerous specimens sent from Bogota. I think I shall be right in regarding the Ecuadorian bird as distinct, and I therefore propose for it the name of *rectirostris*.

#### Genus DORYFERA, Gould.

(Δόρυ, hasta, et φέρω, fero; Lance-bill.)

Generic characters.

*Male*.—Bill long, basal half straight, apical half inclined upwards and pointed; wings of moderate size; tail rounded, the feathers broad and rigid; tarsi partly clothed; hind toe and nail as long as the middle toe and nail; forehead luminous; plumage adpressed.

*Female*.—I believe the female is destitute of the forehead-mark; but this is uncertain.

99. DORYFERA JOHANNÆ . . . . . Vol. II. Pl. 87.

*Hemistephania Johannæ*, Reichenb. Aufz. der Col. p. 9.

*Helianthea Johannæ*, Reichenb. Troch. Enum. p. 6, pl. 731. figs. 4675-76.

*Doryphora Johannæ*, Cab. et Hein. Mus. Hein. Theil iii. p. 78, note.

*Habitat*. New Granada.

100. DORYFERA LUDOVICÆ . . . . . Vol. II. Pl. 88.

*Hemistephania Ludovicæ*, Reichenb. Aufz. der Col. p. 9.

*Helianthea Ludovicæ*, Reichenb. Troch. Enum. p. 6, pl. 731. figs. 4673-74.

*Doryphora Ludovicæ*, Cab. et Hein. Mus. Hein. Theil iii. p. 77.

*Habitat*. New Granada.

101. DORYFERA RECTIROSTRIS, Gould.

Bill and feet black; tarsi clothed with brown feathers; forehead brilliant glittering green; crown and back of the neck reddish bronze, passing into dull green on the back; upper tail-coverts washed with blue; tail black, tipped with greyish-brown, largely on the external feathers, slightly on the middle ones; under-surface olive; under tail-coverts grey; wings purplish brown.

Total length 5 inches; bill  $1\frac{1}{8}$ ; wing  $2\frac{1}{2}$ ; tail  $1\frac{1}{2}$ .

*Habitat*. Ecuador.

How remarkable it is that development and even beauty should be bestowed upon the under tail-coverts of a bird! yet this is often found to be the case: the Marabou Stork may be cited as an instance in point among the larger birds, and the genera *Eriocnemis*, *Erythrionota*, &c. among the Trochilidæ. In no group, however, is this



feature so conspicuously marked as in the members of the succeeding genus *Chalybura*; there it is carried to its maximum, and is rendered so much the more apparent from the striking contrast of the snow-white-plumed under tail-coverts with the dark or black colouring of the tail-feathers. These birds form a very natural section of the Trochilidæ. Venezuela, New Granada, and Panama may be regarded as their head quarters,—two of the species, *C. Buffoni* and *C. cæruleogaster*, being frequently sent in collections from Bogota.

Although the sexes of this genus of birds are very differently coloured, the females have the plumed under tail-coverts as well as the males.

Genus CHALYBURA, *Reichenb.*

102. CHALYBURA BUFFONI.

*Hypuroptila Buffoni* . . . . . Vol. II. Pl. 89.

*Chalybura Buffoni*, Reichenb. Aufz. der Col. p. 10; Cab. et Hein. Mus. Hein. Theil iii. p. 20.

*Agyrtria Buffonii*, Reichenb. Troch. Enum. p. 7, pl. 766. figs. 4773–74.

*Habitat.* Venezuela and New Granada.

103. CHALYBURA UROCHRYSLA, *Gould.*

*Hypuroptila urochryslia*, *Gould* . . . . . Vol. II. Pl. 90.

*Habitat.* Panama.

104. CHALYBURA CÆRULEOGASTRA, *Gould.*

*Hypuroptila cæruleogaster*, *Gould* . . . . . Vol. II. Pl. 91.

*Cyanochloris coeruleiventris*, Reichenb. Aufz. der Col. p. 10.

*Agyrtria coeruleiventris*, Reichenb. Troch. Enum. p. 7, pl. 77. figs. 4775–76.

*Chalybura caeruleiventris*, Cab. et Hein. Mus. Hein. Theil iii. p. 20.

*Habitat.* New Granada.

105. CHALYBURA? ISAUÆ, *Gould.*

*Hypuroptila Isauræ*, Gould in Proc. of Zool. Soc. part xxix. p. 198.

*Habitat.* The Bocca del Toro in Costa Rica.

Head, all the upper surface, wing-coverts, flanks, and abdomen coppery bronze, inclining to purple on the lower part of the back and upper tail-coverts; wings purplish-brown; tail very dark bronze, inclining to purple; throat and breast grass-green; under tail-coverts white; upper mandible black; under mandible fleshy, with a black tip; tarsi yellow or flesh-colour.

Total length  $4\frac{5}{8}$  inches; bill  $1\frac{1}{16}$ ; wing  $2\frac{3}{8}$ ; tail  $1\frac{3}{4}$ ; tarsi  $\frac{1}{4}$ .

The specimen from which the above description was taken is somewhat immature; it is, however, sufficiently advanced to show that it would have, when adult, a fine green breast; but whether the green colour would extend over the abdomen, I am unable to say. It is nearly equal in size to the *C. urochryslia*, *C. Buffoni*, and *C. cæruleigastria*; but it has a shorter wing and a more rounded tail than either of those species, and the under tail-coverts, though white, are less plume-like in form. It is just possible that it may be necessary to separate this bird into a new genus when we see it in its fully adult state; but it appears at present to be most nearly allied to the members of the genus in which I have provisionally placed it. I received this bird from M. Edouard Verreaux, of Paris, many years ago, and I have never seen another.

The name of *Isauræ* was suggested to me by my late highly valued friend the Prince Charles Lucien Bonaparte, who wished thus to convey a compliment to Madame la Baronne de Lafresnaye, the niece of Montbeillard, the able coadjutor of the celebrated Buffon.

Genus IOLEMA, *Gould.*

(*Ιον*, viola, et *λαιμός*, gula.)

Generic characters.

*Male*.—Bill considerably longer than the head and slightly arched; wings long and curved; primaries rigid, of moderate length, and forked; tarsi clothed; feet rather small; hind toe shorter than the middle toe; nails short and curved.

This genus was proposed for the *Trochilus Schreibersii* of Loddiges; and of this form Mr. G. N. Lawrence, of

New York, has made us acquainted with a second species in his *Iolema frontalis*. Both these birds inhabit the eastern slopes of the Andes of Ecuador and forests bordering the River Napo.

106. *IOLEMA FRONTALIS*, Lawr. . . . . Vol. II. Pl. 92.

*Habitat.* The head-waters of the Napo.

107. *IOLEMA SCHREIBERSI* . . . . . Vol. II. Pl. 93.

*Habitat.* The forests bordering the Upper Rio Negro and the Napo.

The species composing the Andean genera to which the names of *Heliodoxa* and *Leadbeatera* have been given, are all truly beautiful birds. They are of large size, and have certain parts of their plumage more than usually resplendent,—so much so, indeed, that no bird has yet been found which equals them in this respect. From Venezuela and New Granada on the north to Bolivia in the south, the various members of these genera find a congenial habitat.

#### GENUS *HELIODOXA*, Gould.

(“*Ἡλιός*, sol, et *δόξα*, gloria.)

Generic characters.

*Male*.—*Bill* longer than the head, straight and cylindrical; *wings* long and pointed; *tail* ample and forked; *tarsi* clothed; *feet* small; *hind toe* shorter than the middle one; *nails* feeble; centre of the throat blue, surrounded by brilliant green.

*Female*.—Unadorned.

108. *HELIODOXA JACULA*, Gould . . . . . Vol. II. Pl. 94.

*Coeligena jacula*, Reichenb. Troch. Enum. p. 4, pl. 688. fig. 4522.

*Heliodoxa jacula*, Cab. et Hein. Mus. Hein. Theil iii. p. 22.

*Habitat.* New Granada.

109. *HELIODOXA JAMESONI* . . . . . Vol. II. Pl. 95.

*Habitat.* Ecuador.

Hitherto I have entertained the opinion that the *H. jacula* and the *Leadbeatera grata* were of the same form; but upon further consideration I now believe them to be distinct; and as the former is the type of my genus *Heliodoxa*, I retain that of *Leadbeatera* for the other.

#### GENUS *LEADBEATERA*, Bonap.

Of this form I possess three very distinct birds, which might be considered by some persons as one and the same, but in this opinion I cannot agree: the *L. Otero* from Bolivia, and the *L. grata* are too unlike to be considered otherwise than as separate species; while the third, which is from Venezuela, is allied to the Bolivian bird rather than to that from New Granada.

110. *LEADBEATERA OTERO*.

*Heliodoxa Otero* . . . . . Vol. II. Pl. 96.

*Coeligena Otero*, Reichenb. Troch. Enum. p. 3, pl. 689. figs. 4523–24.

*Heliodoxa Otero*, Cab. et Hein. Mus. Hein. Theil iii. p. 22, note.

*Leadbeatera sagitta*, Reichenb. Aufz. der Col. p. 7.

*Coeligena sagitta*, Reichenb. ib. p. 23; Id. Troch. Enum. p. 4, pl. 689. fig. 4525, and pl. 690. figs. 4527–28.

*Heliodoxa sagitta*, Cab. et Hein. Mus. Hein. Theil iii. p. 22.

*Habitat.* Peru and Bolivia.

111. *LEADBEATERA SPLENDENS*, Gould.

Centre of the crown brilliant blue, bordered on each side with jet-black; upper surface bronzy green; wings purplish brown; two centre tail-feathers bronzy, the remainder black; under-surface glittering green; under tail-coverts olive-grey; bill black; feet dark brown.

Total length,  $5\frac{1}{2}$  inches; bill  $1\frac{1}{8}$ ; wing  $2\frac{7}{8}$ ; tail  $2\frac{1}{4}$ ; tarsi  $\frac{1}{4}$ .

*Habitat.* Venezuela.

This species is very nearly allied to the *Leadbeatera Otero*, but it differs in having a straighter and shorter bill, and in the green tint of the under-surface.

## 112. LEADBEATERA GRATA.

*Heliodoxa Leadbeateri* . . . . . Vol. II. Pl. 97.

*Habitat.* The hilly parts of New Granada.

It matters not where we place the single species of the genus *Aithurus* (*Trochilus Polytmus* in the body of the work), since it offers no direct alliance to any one group. It is perhaps the most singular and most aberrant of Humming-Birds: for it departs from all the rest in the form of its wings, the second quill-feather being the longest, while in all the others the first exceeds the rest in length: how different also are its other characters! for instance, the tail is not forked in the usual way, the second feather being lengthened into flowing plumes, which apparently tend more to add to its graceful appearance than to facilitate its aerial evolutions. The young males do not possess this peculiarly formed tail; and the females are so unlike both, that we should not have even suspected their alliance, had we not positive evidence of it. This very isolated form is a native of Jamaica, and there alone is it found. That so large a bird and so very marked a form should be confined to such a limited area is very surprising.

Genus *AITHURUS*, *Cab.*113. *AITHURUS POLYTMUS*.

*Trochilus Polytmus* . . . . . Vol. II. Pl. 98.

*Cynanthus polytmus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 145.

*Polytmus cephalatra*, Bonap. Consp. Gen. Av. tom. i. p. 72, *Polytmus*, sp. 1.

——— Ib. sp. 2.; *Trochilus stellatus*, "Gosse," young male?

*Trochilus Maria*, Hill, Ann. and Mag. Nat. Hist. ser. 2. vol. iii. p. 258, 1849; Gosse, Ill. Birds of Jamaica, pl. 22.

*Polytmus viridans*, Reichenb. Aufz. der Col. p. 11; Id. Troch. Enum. p. 9, pl. 799. figs. 4858-60.

*Aithurus polytmus*, Cab. et Hein. Mus. Hein. Theil iii. p. 50.

*Habitat.* Jamaica.

It will be seen that I have placed the *Trochilus stellatus* of Gosse as a synonym of *Aithurus Polytmus*; at the same time it is only justice to state that I have never seen a second specimen in a similar state of plumage, and it may be another species. I make this remark with Mr. Gosse's type specimen before me, it having been kindly presented to me by that gentleman.

Genus *THALURANIA*, *Gould.*

(Θάλλω, vireo, et. οὐρανίος, cœlestis.)

If all genera were as well defined as that of *Thaluranina*, the ornithologist would be far less perplexed than he frequently is with regard to the position of the species of which they are composed. All the members of this extensive group are characterized by great elegance of contour, the bill, wings, and tail being well proportioned, and in harmony with the size of the body; green and blue are the prevailing hues of the under-surface, while the crown and throat, and sometimes the shoulders, are ornamented with blue. The females are less elegant in form, and not so beautifully attired, all those parts which are green and blue in the males being, in every instance, I believe, of a dull grey.

The extent of country ranged over by the members of this group is very great: one, and one only, has been found to the north of Panama; the remainder inhabit all the countries southward to the latitude of Rio de Janeiro.

114. *THALURANIA GLAUCOPIS* . . . . . Vol. II. Pl. 99.

*Cynanthus glaucopis*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 147.

*Glaucopis frontalis*, Burm. Th. Bras. tom. ii. p. 333.

*Thaluranina glaucopis*, Cab. et Hein. Mus. Hein. Theil iii. p. 23.

*Habitat.* South-eastern Brazil.

115. *THALURANIA WATERTONI* . . . . . Vol. II. Pl. 100.

*Habitat.* British Guiana; and Northern Brazil?

116. *THALURANIA FURCATA* . . . . . Vol. II. Pl. 101.

*Cynanthus furcatus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 148.

*Thaluranina Gyrinno*, Reichenb. Aufz. der Col. p. 7.

*Coeligena Gyrinno*, Reichenb. Troch. Enum. p. 3, pl. 682. figs. 4500-1.

*Thaluranina furcata*, Cab. et Hein. Mus. Hein. Theil iii. p. 24.



*Thalurania furcata*, Reichenb. Aufz. der Col. p. 7.

*Coeligena furcata*, Reichenb. Troch. Enum. p. 3, pl. 682. figs. 4498-99.

*Trochilus furcatus*, Burm. Th. Bras. tom. ii. p. 335.

*Habitat.* Cayenne and Guiana.

117. *THALURANIA FURCATOIDES*, Gould.

*Thalurania furcatoides*, Gould, in text to *T. furcata*.

*Habitat.* Para and the lower part of the Amazon.

This bird is very like *T. furcata*, but is of smaller size, has a much less-forked tail, and the breast ultramarine-blue instead of purplish-blue. I have at this moment seven specimens before me, all of which are alike, and readily distinguishable from the Cayenne bird.

118. *THALURANIA FORFICATA*, Cab.

*Thalurania forficata*, Cab. et Hein. Mus. Hein. Theil iii. p. 24.

*Habitat.* Supposed to be the neighbourhood of Para.

Through the kindness of Dr. Peters, the Director of the Royal Museum of Berlin, I have had their specimen of *T. forficata* sent to me for comparison. It is certainly distinct from any of the species contained in the collections of this country: in size it is nearly the same as *T. furcata*; but its bill is rather shorter, its tail longer, more deeply forked, and of a purplish-black colour instead of steely-black: it differs from that bird also in having the blue colouring more extended down the back, approaching to that of *T. Watertoni*; the green of the throat is circumscribed and truncate below, as in *T. furcata*; and the crown of the head is black, but near the centre is a single small blue feather: I think it likely that this is accidental, as the bird appears to be fully adult: the under tail-coverts are black.

119. *THALURANIA REFULGENS*, Gould . . . . . Vol. II. Pl. 102.

*Habitat.* Unknown; supposed to be Venezuela.

120. *THALURANIA TSCHUDI*, Gould . . . . . Vol. II. Pl. 103.

*Trochilus furcatus*, Tschudi.

*Habitat.* Ucayali and the eastern part of Ecuador.

121. *THALURANIA NIGROFASCIATA*, Gould . . . . . Vol. II. Pl. 104.

*Habitat.* Upper Amazon and Rio Napo.

122. *THALURANIA VENUSTA*, Gould . . . . . Vol. II. Pl. 105.

*Coeligena venusta*, Reichenb. Troch. Enum. p. 3, pl. 683. figs. 4504-5.

——— *puella*, Reichenb. ib. p. 3.

*Habitat.* Chiriqui in Costa Rica.

123. *THALURANIA COLUMBICA* . . . . . Vol. II. Pl. 106.

*Thalurania columbica*, Cab. et Hein. Mus. Hein. Theil iii. p. 24.

*Habitat.* The hilly parts of New Granada.

124. *THALURANIA VERTICEPS*, Gould . . . . . Vol. II. Pl. 107.

*Chlorestes verticeps*, Reichenb. Troch. Enum. p. 4, pl. 705. fig. 4590.

*Habitat.* Ecuador.

125. *THALURANIA FANNIÆ*.

*Coeligena Fanny*, Reichenb. Troch. Enum. p. 3, pl. 683. figs. 4502-3.

*Thalurania Fanny*, Bonap. Rev. et Mag. de Zool. 1854, p. 254; Cab. et Hein. Mus. Hein. Theil iii. p. 23.

*Habitat.* The Andes of Quindios.

I have a specimen of this bird, collected by Warszewicz on the Cordillera of Quindios, which is precisely the same as the type specimen of the *T. Fannyi* of MM. Bourcier and Delattre. It differs from my *T. verticeps* in being considerably smaller and in having the abdomen purple-blue in lieu of cold prussian-blue.

126. *THALURANIA ERIPHYLE* . . . . . Vol. II. Pl. 108.

*Coeligena Eryphile*, Reichenb. Troch. Enum. p. 3, pl. 582. figs. 4507-8.

*Glaucopis eriphile*, Burm. Th. Bras. tom. ii. p. 334.

*Trochilus excisus*, Licht. in Mus. of Berlin.

*Thalurania eryphile*, Cab. et Hein. Mus. Hein. Theil iii. p. 23.

*Habitat.* Eastern Brazil.

127. THALURANIA? WAGLERI . . . . . Vol. II. Pl. 109.

*Trochilus bicolor*, Vieill. Ois. dor., tom. i. p. 75, pl. 36.

*Coeligena Wagleri*, Reichenb. Troch. Enum. p. 3, pl. 702. figs. 4576-77.

*Thalurania Wagleri*, Cab. et Hein. Mus. Hein. Theil iii. p. 24.

*Habitat.* Brazil.

The three species constituting my genus *Panoplitæ* very closely resemble each other in size, in structure, and in the markings of their tails, but are very dissimilar in the colouring of their bodies. They are all inhabitants of the Ecuadorian Andes, and one of them (*P. flavescens*) extends its range as far north as Bogota. The most remarkable species of this form is the *P. Jardinei*, whose glittering upper surface is wonderfully brilliant.

#### Genus PANOPLITES, Gould.

(Πανοπλίτης, omnino armatus.)

Generic characters.

*Male*.—Bill strong, and a trifle longer than the head; *body* stout and thick-set; *wings* long and pointed; *tail* moderately long and square, the feathers broad; *tarsi* clothed and stout; *hind toe* strong, and of the same length as the middle one; *nails* short.

*Female*.—Very similar to the male in plumage.

128. PANOPLITES JARDINEI . . . . . Vol. II. Pl. 110.

*Panoplitæ Jardinei*, Cab. et Hein. Mus. Hein. Theil iii. p. 75, note.

*Habitat.* Nanegal and other warm parts of Ecuador.

129. PANOPLITES FLAVESCENS . . . . . Vol. II. Pl. 111.

*Boissonneaua flavescens*, Reichenb. Aufz. der Col. p. 11; Id. Troch. Enum. p. 8, pl. 787. figs. 4830-31.

*Panoplitæ flavescens*, Cab. et Hein. Mus. Hein. Theil iii. p. 74.

*Trochilus Lichtensteinii*, Saucer. in Mus. of Berlin.

*Habitat.* Ecuador and New Granada.

130. PANOPLITES MATHEWSI . . . . . Vol. II. Pl. 112.

*Heliodoxa Mathewsi*, Reichenb. Aufz. der Col. p. 9.

*Boissonneaua Mathewsi*, Reichenb. Troch. Enum. p. 8, pl. 787. figs. 4832-33.

*Panoplitæ Mathewsi*, Cab. et Hein. Mus. Hein. Theil iii. p. 74, note.

*Habitat.* Ecuador.

Somewhat allied to the *Panoplitæ* are the members of the

#### Genus FLORISUGA, Bonap.,

all of which are remarkable for their large fan-shaped tails, and for having all the feathers of this organ white. The females are less strikingly coloured. One of the species, *F. mellivora*, enjoys a most extensive range; for it inhabits alike the low lands of Northern Brazil, Cayenne, Guiana, Trinidad, Venezuela, the temperate regions of New Granada, and Central America; the other two are confined to more limited areas. The *F. mellivora* and *F. atra* are among the oldest-known and the commonest of the Humming-Birds, there being no collection of any extent without examples of them.

131. FLORISUGA MELLIVORA . . . . . Vol. II. Pl. 113.

*Lampornis mellivora*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 155.

*Florisuga mellivora*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12; Cab. et Hein. Mus. Hein. Theil iii. p. 29.

*Habitat.* Brazil, Trinidad, New Granada, Bogota, and Guatemala.

132. FLORISUGA FLABELLIFERA, Gould . . . . . Vol. II. Pl. 114.

*Florisuga flabellifera*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12; Cab. et Hein. Mus. Hein. Theil iii. p. 29, note.

*Topaza flabellifera*, Gray & Mitch. Gen. of Birds, vol. i. p. 110, *Topaza*, sp. 8.

*Habitat.* The Island of Tobago, and perhaps elsewhere.

"I am not able" [says Mr. Kirk] "to decide as to this bird being a native of Tobago. It is only to be met

with at certain seasons; but whether it leaves the island, or retires to the interior, I am not at present prepared to say. It is seldom to be found in open sunshine: the mornings and evenings are its principal times for feeding, and its evolutions then are truly pleasing,—at one instant suspended immovable to the eye (although alternately showing the purest white and green), at the very top of our tallest bamboo, guava, or other tree, and at the next moment at the root, with two or three zigzags right and left, up and down, dipping either into the river or snapping a fly from the surface, and then disappearing. I think it probable that this bird feeds more upon winged insects than most of the others, which may account for its being seen so early in the calm mornings, retiring generally into the thick wild plantain bushes as soon as the sun begins to spread his rays upon them, and appearing again in the evening when he is going down, or when his rays cease to act upon their spot of pleasure. A female shot on the 19th of April contained an egg almost perfect.”—*Horæ Zoologicae*, by Sir W. Jardine, Bt., in *Ann. and Mag. Nat. Hist.* vol. xx. p. 373.

133. *FLORISUGA ATRA* . . . . . Vol. II. Pl. 115.  
*Lampornis niger*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 156.  
*Florisuga fusca*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12; Cab. et Hein. Mus. Hein. Theil iii. p. 29.  
*Habitat.* Eastern Brazil.

That all the Humming-Birds are not yet discovered we may very reasonably conjecture, and we may ask what will be our next novelty in this group of birds. This remark has suggested itself upon finding next in succession the singular little *Microchera albocoronata*. Although America has been discovered for more than 300 years, and collectors have been employed for the last fifty in searching for its treasures of various kinds, we had no knowledge of the existence of this bird until 1852, when Dr. J. K. Merritt shot three examples in the district of Belen in New Granada.

Genus MICROCHERA, Gould.  
(μικρός, parvus, et χήρα, vidua.)

Generic characters.

*Male*.—Bill about the same length as the head, and straight; wings moderate; tail rather short and square; tarsi clothed; feet small; claws diminutive.

134. *MICROCHERA ALBOCORONATA*, Gould . . . . . Vol. II. Pl. 116.  
*Habitat.* The district of Belen in New Granada.

A considerable hiatus here occurs, which cannot at present be filled up, and we come to the elegant frill-necked Coquettes, the *Lophornithes*; and with these I commence the third volume.

They are among the most beautiful of the smaller members of the Trochilidæ, and are distinguished by the possession of lengthened ornamental plumes springing from the sides of the neck, which generally have a spangle of metallic lustre at the tip; they are further ornamented with beautiful lengthened crests, which are developed to a greater extent in some species than in others; in those in which the neck-plumes are the longest, the crests are least so, and *vice versâ*. They are spread over a great part of America, from Mexico along the Andes to Bolivia; they also occur in Brazil, the Guianas, and the Island of Trinidad.

Genus LOPHORNIS, Less.

135. *LOPHORNIS ORNATUS* . . . . . Vol. III. Pl. 117.  
*Habitat.* Northern Brazil, Guiana, and Trinidad.

Mr. W. Tucker informs me that in Trinidad this species “frequents the pastures and open places, and visits the flowers of all the small shrubs, but is particularly fond of those of the Ipecacuanha plant, and that it is very pugnacious, erecting its crest, throwing out its whiskers, and attacking every Humming-Bird that may pass within its range of vision.”

136. *LOPHORNIS GOULDI* . . . . . Vol. III. Pl. 118.  
*Habitat.* Northern Brazil.



137. *LOPHORNIS MAGNIFICUS* . . . . . Vol. III. Pl. 119.  
*Ornismya strumaria*, Dev. Rev. et Mag. de Zool. 1852, p. 215.  
*Habitat.* South-eastern Brazil.
138. *LOPHORNIS REGULUS*, *Gould* . . . . . Vol. III. Pl. 120.  
*Habitat.* Cochabamba in Bolivia.

I possess a bird of this genus from Peru, with a more truncate form of crest than that of *L. Regulus*, the fine feathers of which are rather largely tipped with spangles of dark green. This may probably prove to be, and I believe is, really distinct; I have consequently proposed for it the specific name of *lophotes*. In size and colouring it very closely resembles the *L. Regulus*, with the exceptional difference in the form of the crest.

139. *LOPHORNIS LOPHOTES*, *Gould*.  
*Habitat.* Peru.
140. *LOPHORNIS DELATTREI*, *Less.* . . . . Vol. III. Pl. 121.  
*Habitat.* New Granada.

141. *LOPHORNIS REGINÆ*, *Gould* . . . . . Vol. III. Pl. 122.  
*Habitat.* New Granada.

Mr. Fraser, who killed an example at Zamora, in Ecuador, states that the irides of this species are black, and its mandibles reddish flesh-colour, with a black tip; he adds that it was feeding from a large Guarumba tree.

142. *LOPHORNIS HELENÆ* . . . . . Vol. III. Pl. 123.  
*Habitat.* Guatemala and Southern Mexico.

Mr. Salvin states that this species is not uncommon in the vicinity of Coban, and that its cry "is peculiarly shrill and unlike that of any other species I know; hence its presence may be noticed if only the cry of a passing bird be heard. It feeds among the *Salvia* that so abound in the mountain-hollows about Coban; and it is said also to show a partiality for the flowers of the *Tasisco* when that tree is in full bloom in the month of December. In the month of November females of this species are very rare. Of the specimens I collected, there was only one female to seventeen males.

"In the Indian language of Coban, *Lophornis Helenæ* has, besides the name 'Tzunnun,' which is applied to all the small Humming-Birds, the additional name of 'Achshukub.' The Spanish name is 'El Gorrion Cachudo'—the Horned Humming-Bird."—*Ibis*, vol. ii. p. 268.

Although I have placed all the species known by the trivial name of Coquettes in the genus *Lophornis*, the *L. chalybeus* and *L. Verreauxi* have been separated by M. Cabanis into a distinct genus, under the name of *Polemistria*.

#### Genus *POLEMISTRIA*, *Cab.*

These birds, as will be seen on reference to the plates on which they are represented, vary considerably from all the true *Lophornithes*; the feathers of the neck-frill are very different, and the tail is much longer and more rounded. I shall not be surprised if another species of this peculiar form should be discovered; for I have in my possession the skin of a female from Bogota, which I am inclined to think is the female of an unknown species.

143. *POLEMISTRIA CHALYBEA*.  
*Lophornis chalybeus* . . . . . Vol. III. Pl. 124.  
*Habitat.* Brazil.
144. *POLEMISTRIA VERREAUXI*.  
*Lophornis Verreauxi* . . . . . Vol. III. Pl. 125.  
*Habitat.* Peru.

I shall now proceed to the single species of the genus *Discura*. The band which crosses the lower part of the back allies this bird to the *Lophornithes* on the one hand, and to *Prymnacantha* and the *Gouldiæ* on the other.

#### Genus *DISCURA*, *Bonap.*

145. *DISCURA LONGICAUDA* . . . . . Vol. III. Pl. 126.  
*Habitat.* Cayenne, Brazil, and Guiana.

*Gouldia*, *Popelairia*, *Gouldomyia* and *Prymnacantha* are all generic terms proposed for the four species I have called by the trivial name of Thorn-tail. Of these, Bonaparte's name of *Gouldia*, having the priority, has been adopted by me in the body of this work; but as the first species, *G. Popelairi*, differs from the others in possessing a most singular and elegant crest terminating in two hair-like feathers, I propose to adopt M. Cabanis's classical name of *Prymnacantha* for this species, and to retain *Gouldia* for the others.

Genus PRYMNACANTHA, Cab.

146. PRYMNACANTHA POPELAIREI.

*Gouldia Popelairi* . . . . . Vol. III. Pl. 127.  
*Popelairia tricholopha*, Reichenb. Troch. Enum. p. 9.  
*Habitat*. New Granada.

Genus GOULDIA, Bonap.

147. GOULDIA LANGSDORFFI . . . . . Vol. III. Pl. 128.

*Habitat*. Brazil; and I have a single specimen from the Rio Napo.

148. GOULDIA CONVERSI . . . . . Vol. III. Pl. 129.

*Habitat*. From Bogota along the Andes to Popayan; and Ecuador, from which latter country I have a single specimen.

149. GOULDIA LÆTITULÆ . . . . . Vol. III. Pl. 130.

*Habitat*. Bolivia.

Genus TROCHILUS, Linn.

The members of this genus as now restricted are only two in number—*T. Colubris* and *T. Alexandria*. Both these birds are of moderate size and of elegant proportions. The males are decorated with richly-coloured gorgets, while the females are clothed in a sombre livery.

150. TROCHILUS COLUBRIS, Linn: . . . . . Vol. III. Pl. 131.

*Cyananthus colubris*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 143.

*Habitat*. The eastern part of North America in summer; Mexico and Guatemala in winter, at which season it is also occasionally found in Cuba, and sometimes in Bermuda.

I have observed that specimens from Guatemala are smaller and lighter-coloured than those obtained in North America. In all probability these constitute a race which does not migrate so far north as the United States. It is probable, also, that the birds frequenting the latter country do not go further south than Mexico.

"This species," say Messrs. Sclater and Salvin, "would appear to be abundant in the winter months in Guatemala, as numerous examples were obtained by Mr. Skinner. It occurs at Acatenango, a village on the southern slope of the great Cordillera, showing that it chooses for its winter retreat the moderate climate afforded by the region lying between the elevations of 3000 and 4000 feet."—*Ibis*, vol. i. 1859, p. 129.

151. TROCHILUS ALEXANDRI, Bourc. et Muls. . . . . Vol. III. Pl. 132.

*Trochilus Cassini*, Bonap. MSS.

——— *Suecicus*, in Mus. Götzian. Dresden.

*Selasphorus Alexandri*, Reichenb. Troch. Enum. p. 10.

*Habitat*. Northern Mexico and California. Found by Dr. Heermann at Sacramento city, within the limits of the United States.

Genus MELLISUGA, Briss.

This genus contains but a single species, unless the very minute Humming-Bird in the Loddigesian Collection should prove to be really distinct. The member or members of the genus, as the case may be, must be regarded as the very smallest of the Trochilidæ. Both sexes are destitute of luminous colouring.

152. MELLISUGA MINIMA . . . . . Vol. III. Pl. 133.

*Trochilus pygmæus*, Swains. Birds of Brazil, pl. 78.

*Habitat*. Jamaica and St. Domingo.

Genus CALYPTE, *Gould*.

(Καλυπτή, operta).

Generic characters.

*Male*.—*Bill* longer than the head, straight, or slightly arched; *tail* rather short, the three outer feathers stiff, narrow, and slightly incurved; *tarsi* clothed; *feet* small; *hind* and *fore toes* nearly equal in length; entire *head* and *throat* luminous.

*Female*.—Destitute of luminous colouring.

This is strictly a Mexican genus, all the members of which are beautifully coloured, the entire head and face of the males appearing as if covered with a mask of burnished metal.

153. CALYPTE COSTÆ . . . . . Vol. III. Pl. 134.

*Habitat*. Mexico, Southern California, and Colorado Basin.

154. CALYPTE ANNÆ . . . . . Vol. III. Pl. 135.

*Calliphlox lamprocephalus*, Licht. Cat. of Birds in Mus. of Berlin, p. 57.

*Habitat*. The table lands of Mexico and California.

155. CALYPTE HELENÆ . . . . . Vol. III. Pl. 136.

*Orthorhynchus Helenæ*, Lambeye.

———— *Boothi*, Gundl.

*Habitat*. Cuba.

Genus SELASPHORUS, *Swains*.

The species of this form are characterized by the great brilliancy of the gorgets of the males. The females are destitute of these fine colours. The rounded or cuneate form of the tail in these birds at once separates them from the members of the last-mentioned genus.

156. SELASPHORUS RUFUS . . . . . Vol. III. Pl. 137.

*Selasphorus ruber*, Cab. et Hein. Mus. Hein. Theil iii. p. 56.

*Habitat*. Mexico. In summer it also occurs in California, and even as far north as Nootka Sound, and sometimes at Sitka.

Refer to the account of this species for my remarks respecting its not being identical with the *Trochilus ruber* of Linnæus; and also to a very interesting paper in the 'Natural History of Washington-territory,' by Drs. Cooper and Suckley.

157. SELASPHORUS SCINTILLA, *Gould* . . . . . Vol. III. Pl. 138.

*Habitat*. The inner sides of the volcanic mountain Chiriqui in Costa Rica.

158. SELASPHORUS FLORESII . . . . . Vol. III. Pl. 139.

*Habitat*. Bolanos in Central Mexico.

159. SELASPHORUS PLATYCERCUS . . . . . Vol. III. Pl. 140.

*Trochilus montanus*, Swains. Birds of Brazil, pl. 74.

*Habitat*. Guatemala, Mexico, and, according to Dr. Baird, "through Rocky Mountains to Fort Bridger, Utah."

I have observed that specimens from Guatemala are much smaller than those from the table lands of Mexico. M. Boucard found this bird at Oaxaca in Southern Mexico, and Mr. Salvin at Dueñas in Guatemala.

Genus ATTHIS, *Reichenb*.

The type of this genus is *A. Heloïsæ*; and I retain the term for this very singular and beautiful bird, which in the character of its plumage and the colouring of its tail differs from every other with which I am acquainted. The plumage is extremely soft, and easily disarranged.

160. ATTHIS HELOÏSÆ.

*Selasphorus Heloïsæ* . . . . . Vol. III. Pl. 141.

*Habitat*. Central America and Southern Mexico.

Numerously subdivided as the members of this family already are, I cannot pass over the beautiful *Calliope* without perceiving the necessity for a separate distinctive appellation; I therefore propose that of *Stellula*.



Genus STELLULA, *Gould*.  
(dim. of *Stella*.)

Generic characters.

*Male*.—*Bill* longer than the head, straight and pointed; *wings* moderately long and sickle-shaped; *first primary* rigid; *tail* short and truncate; *feet* small; *claws* diminutive and curved.

The starry throat-mark of this bird would appear to indicate that it should be associated with the members of the next genus, *Calothorax*; but on an examination of the tail we find it to be short and truncate, and that consequently the bird is of a very different form.

At present but one species of this form has been discovered; and this ranges very far north, not only over the high lands of Mexico, but even enters California, as is shown by specimens having been sent to me from thence by Dr. Baird of Washington, and Mr. Bridges of California.

161. STELLULA CALLIOPE.  
*Calothorax Calliope*, *Gould* . . . . . Vol. III. Pl. 142.  
*Habitat*. The table lands of Northern Mexico and California.

The type of the

Genus CALOTHORAX, *G. R. Gray*,

is the well-known Mexican Star, *C. cyanopogon*, which, together with the new species discovered by M. Sallé, and named by me *C. pulcher*, are all that are known of this peculiar form. Both these birds are natives of Mexico—one inhabiting the table lands, the other the more southern and hotter districts. Both have very singularly formed tails—the outer feather being shorter than the next, and the four central ones so abbreviated as to be almost hidden by the coverts. When the males display their luminous gorgets, they must appear truly beautiful. The females possess none of this fine colouring, but, on the contrary, are very plainly attired.

162. CALOTHORAX CYANOPOGON . . . . . Vol. III. Pl. 143.  
*Trochilus cyanopogon*, Swains. Birds of Brazil, pl. 77.  
——— *coruscus*, Licht. Preis-Verz. Mexican. Thier. v. Deppe & Schiede (Sept. 1830) No. 34, 35.  
*Habitat*. The table land of Northern Mexico.
163. CALOTHORAX PULCHER, *Gould* . . . . . Vol. III. Pl. 144.  
*Habitat*. Oaxaca in Southern Mexico.

It has always appeared to me that the well-known *Calothorax Mulsanti* and *C. Heliodori* might very properly be separated into a distinct genus; and this I have accordingly done. With these must be associated the species to which I have given the name of *C. decoratus*, and, I think, the singular little *C. micrurus*. They are all from the Andes, and are among the most diminutive of the Trochilideæ. Their structure would lead one to suspect that their wings are capable of very rapid motion, that organ being so small that it must be moved with increased rapidity to enable the bird to sustain itself when poising before a flower.

Genus ACESTRURA, *Gould*.  
(ἀκίστρα, acus, et οὐρά, cauda.)

Generic characters.

*Male*.—*Bill* longer than the head, cylindrical, and very slightly arched; two centre tail-feathers extremely small, the two outer ones filamentous and shorter than the third; *wings* diminutive; *tarsi* clothed; *feet* small; *gorget* luminous.

*Female*.—Unadorned.

164. ACESTRURA MULSANTI.  
*Calothorax Mulsanti* . . . . . Vol. III. Pl. 145.  
*Lucifer Mulsanti*, Reichenb. Troch. Enum. p. 10.  
*Trochilus filicaudus*, Licht. in Mus. Berol.  
*Chaetocercus Mulsanti*. Cab. et Hein. Mus. Hein. Theil iii. p. 60.  
*Habitat*. The temperate regions of the Andes, from Bogota to Quito.
- I observe that specimens from the former locality are smaller than those from the latter. Mr. Fraser found this bird at Pallatanga and Puellaro in Ecuador.

165. *ACESTRURA DECORATA*, *Gould*.

*Calothorax decoratus*, *Gould* . . . . . Vol. III. Pl. 146.  
*Habitat*. Uncertain, but supposed to be Antioquia, in New Granada

166. *ACESTRURA HELIODORI*.

*Calothorax Heliodori* . . . . . Vol. III. Pl. 147.  
*Lucifer Heliodori*, Reichenb. Troch. Enum. p. 10.  
*Chaetocercus Heliodori*, Cab. et Hein. Mus. Hein. Theil iii. p. 60.  
*Calothorax bombilus*, Reichenb. MS.  
*Habitat*. The Andes of New Granada.

167. *ACESTRURA MICRURA*, *Gould*.

*Calothorax micrurus*, *Gould* . . . . . Vol. III. Pl. 148.  
*Habitat*. Peru or Bolivia.

The members of the genus *Acestrura* naturally lead on to the *Calothorax Rosæ* and *C. Jourdani*, constituting the

Genus *CHÆTOCERCUS*, *G. R. Gray*.

Both these birds have very singularly formed tails, as may be seen on reference to the respective plates on which they are represented.

168. *CHÆTOCERCUS ROSÆ*.

*Calothorax Rosæ* . . . . . Vol. III. Pl. 149.  
*Chaetocercus Rosæ*, Cab. et Hein. Mus. Hein. Theil iii. p. 60.  
*Habitat*. Venezuela.

169. *CHÆTOCERCUS JOURDANI*.

*Calothorax Jourdani* . . . . . Vol. III. Pl. 150.  
*Habitat*. The Island of Trinidad, where Mr. Tucker states that it frequents the Savannahs, but is very rare.

The bird which I have figured under the name of *Calothorax Fanny* is the type of the

Genus *MYRTIS*, *Reichenb.*,

which I adopt for that beautiful bird and the *C. Yarrelli*, as I consider them to be a very distinct form, and one which is especially remarkable for the structure of the tail.

170. *MYRTIS FANNIÆ*.

*Calothorax Fanny* . . . . . Vol. III. Pl. 151.  
*Habitat*. Ecuador and Peru.

Mr. Fraser found it at Cuenca in November, 1857, when it was "common about the gardens and lane hedges. It makes much more humming with its wings than the long-tailed green *Lesbia*."—*Proc. Zool. Soc.*, part xxvi. p. 459.

171. *MYRTIS YARRELLI*.

*Calothorax Yarrelli* . . . . . Vol. III. Pl. 152.  
*Habitat*. Western Peru, particularly the neighbourhood of Arica.

How very singular and diversified in form are the Humming-Birds of Peru! So varied indeed are they, that almost every species demands a generic appellation; the *T. Coræ* with its beautiful throat and lengthened tail is the type of the

Genus *THAUMASTURA*, *Bonap.*

Of this peculiar form only one species is known, of which the male alone is decorated with fine colours, and bears the singularly constructed tail.

172. *THAUMASTURA CORÆ* . . . . . Vol. III. Pl. 153.

*Ornismya cora*, Dev. Rev. et Mag. de Zool. 1852, p. 217.  
*Habitat*. Peru.

M. Deville states that this bird is found during the months of February, March, April, and May only, in the

humid districts bordering the River Rimac at Lima. It is seen in small troops composed of six or eight couples, which are constantly pursuing one another, and uttering a slight cry. It is very airy in its flight, and rarely permits any other Humming-Bird to remain in its neighbourhood, but wages a continual and terrible war with them.

The largest species of the luminous lilac-throated Peruvian Humming-Birds, the *R. Vespera*, constitutes the

Genus RHODOPIS, *Reichenb.*,

which, as the form differs from all the others, I have no other alternative, if I act with consistency, than to adopt. It has a deeply forked tail, the feathers of which are narrow and rigid, not soft and yielding as in the *T. Coræ*. I have never seen a second species of this particular form. The female, like that sex in many other allied genera, is destitute of brilliant colouring.

173. RHODOPIS VESPERA . . . . . Vol. III. Pl. 154.  
*Habitat.* Peru.

Not less beautiful in the colouring of their gorgets are the members of the

Genus DORICHA, *Reichenb.*

The *D. Elizæ*, the Guatemalan bird known as *enicura*, and the less-known Bahama species *D. Evelynæ* are all associated by me in this genus; and if the plates on which they are respectively figured be referred to, it will be seen how beautiful are the throat-markings of the males.

174. DORICHA ELIZÆ.  
 Thaumastura Elizæ . . . . . Vol. III. Pl. 155.  
*Thaumastura Elizæ*, Montes de Oca in Proc. Acad. Nat. Sci. Philad. 1860, p. 552.  
*Habitat.* Southern Mexico.

"This," says M. Montes de Oca, "is one of the rarest of the Mexican Humming-Birds. It is small, very beautiful, and flies with wonderful rapidity, moving its wings with such velocity that it is almost impossible to see them; and it might easily be mistaken for a large bee, from the buzzing sound produced by their incessant motion. In the vicinity of Jalapa it is called *Mirto de Colo de tisera*, or the spear-tailed Myrtle-sucker. It is very shy, and differs in its habits and manners from all other species. It is on the wing very early in the morning; and I have never seen any of the few specimens that have come under my observation between the hours of seven or eight o'clock A.M. and five P.M., when they are again to be met with until dusk. When it has once been detected feeding at any particular spot, it is almost sure to be found there at the same hour for several days in succession. It feeds on the *Masapan* and *Tobaco* flowers, preferring, I think, the latter. It is also found and breeds at the Barrancas de Jico (or the Precipices of Jico), about twenty miles from Jalapa. The nest, which is very small, round, flat at the bottom, and neither so deep nor so thick at the base as those of most Humming-Birds, is covered on the outside with moss from stones, and lined with *tule*, or cat-tail silky floss."

175. DORICHA EVELYNÆ.  
 Thaumastura Evelynæ . . . . . Vol. III. Pl. 156.  
*Habitat.* Bahama Islands.

176. DORICHA ENICURA.  
 Thaumastura enicura . . . . . Vol. III. Pl. 157.  
*Habitat.* Guatemala.

"On no occasion," says Mr. Salvin, "were the males of this species observed about Dueñas during the months of February and March; indeed it was not until the month of May that both males and females were seen together, at which time the *Nopal* of the cochineal plantations being in full flower, great numbers of Humming-Birds, especially of this species, were in the habit of feeding from the blossoms of that cactus. The females during the winter months are common enough, and frequent the same places, and feed principally on the same trees as the *Cyanomyia cyanocephala*."—*Ibis*, vol. i. p. 129.

"Occasionally, when flying, the elongated tail-feathers are stretched to a considerable angle."—*Ibis*, vol. ii. p. 40.

Speaking of three nests of this species Mr. Salvin says:—"One of these was in a coffee-tree, and had two eggs. The other was most curiously placed in the cup-shaped top of a fruit of the *Nopal* (*Cactus cochinellifer*), the fastenings being dexterously wound round the clustering prickles, and thus retaining the whole structure most



firmly in its place. This nest was remarkably shallow; so much so that, if it had not contained its two eggs, I should have pronounced it far from complete. It may be that, being based on a firm foundation (one not nearly so liable to oscillation by the wind), the bird had found that a greater depth was not necessary to keep the eggs from falling out. Had she placed her nest on a slender twig, as seems to be usual, the case might have been different. The third nest had young. It was placed in the upper shoots of a Dahlia at the further end of the courtyard. The hen seemed to have the entire duty of rearing the young; for I never once saw the male near the place; in fact, I never saw a male inside the courtyard. When sitting she would sometimes allow me to go close to her, and even hold the branch still when it was swaying to and fro by the wind, without evincing the slightest alarm. But it was only when a hot sun was shining that she would allow me to do this; when it was dull or raining, four or five yards was the nearest I could approach. Frequently when I had disturbed her, I would sit down close at hand and wait for her return, and I always noticed that, after flying past once or twice overhead, she would bring a small piece of lichen, which, after she had settled herself comfortably in her nest, she would attach to the outside. All this was done with such a confident and fearless air, that she seemed to intimate, 'I left my nest purely to seek for this piece of lichen, and not because I was afraid of you.' When sitting upon her nest, the whole cavity was quite filled by her puffed-out feathers, the wings, with the exception of their tips, being *entirely concealed* by the feathers of the back. When the young were first hatched, they looked little, black, shapeless things, with long necks and hardly any beak. They soon, however, grew, and entirely filled the nest. I never saw the old bird sitting after the young had emerged from the eggs: she seemed to leave them alike in sun and rain. When feeding them she would stand upon the edge of the nest with her body very upright. The first of these young ones flew on October 15. It was standing on the side of the nest as I happened to approach, when it immediately flew off, but fell among the flowers below. I placed it in the nest, but a moment after it was off again, nothing daunted by its first failure—this second time with better success, for it flew over a wall close by and settled on a tree on the other side. In the evening I saw the old one feeding it, and went up to the tree; but it started off with increased vigour to an orange-tree, and tried at first to rest on one of the fruit, but failing, found a more appropriate perch on the edge of a leaf. I never saw it afterwards. The other young one flew two days later.

"The seeds of the willow and bulrush are favourite materials for the interior structure of the nest, while lichen is freely used outside."—*Ibis*, vol. ii. p. 264.

#### Genus TRYPHÆNA, *Gould*.

(Τρύφαινα, nom. prop.)

Generic characters.

*Male*.—Bill as long as the head, and straight; wings very small; primaries narrow; tail deeply forked, the outer feather narrow, tapering at the tip and incurved; feet small, claws short and hooked; gorget richly coloured but not luminous; tail ornamented.

*Female*.—Unadorned; tail extremely short.

The single species of this genus stands quite alone in the great family of Humming-Birds. The peculiar and beautiful markings of its tail are most remarkable; the colouring of the throat-mark is equally distinct. It must be remembered that these features are confined to the male, the female being very plainly attired, and having a very diminutive tail. Guatemala may well be proud of this singular bird, rich as her fauna really is.

177. TRYPHÆNA DUPONTI . . . . . Vol. III. Pl. 158.

*Trochilus Duponti*, Jard. Nat. Lib. Humming-Birds, vol. i. p. 131, pl. 26.

*Cynanthus Duponti*, Id. ib. vol. ii. p. 145.

*Trochilus lepidus*, Licht. in Mus. Berol.

*Tilmatura lepida*, Reichenb. Aufz. der Col. p. 8; Id. Troch. Enum. p. 5, pl. 711. figs. 4610, 4611.

*Thaumastura duponti*, Bonap. in Rev. et Mag. de Zool. 1854, p. 257.

—————*Duponti*, Cab. et Hein. Mus. Hein. Theil iii. p. 55, note.

*Habitat*. Guatemala.

"Following the course of the river of San Gerónimo up its bed to about half a league from the village, you come upon a small patch of forest with here and there open spots covered with *Salvia*. Here it was that this bird was shot, by a boy, who told me there were plenty; however, on visiting the place soon after, I was not successful in obtaining more specimens, nor was I fortunate enough to see one."—*Salvin* in *Ibis*, vol. ii. p. 266.

## Genus CALLIPHLOX, Boié.

Perhaps the very commonest of the frill-necked Humming-Birds is the *C. amethystina*. It is more widely spread than many other species, since it inhabits all the countries from Brazil to Venezuela.

In this genus I have also placed the *C. Mitchelli*; but I have some doubt as to the propriety of so doing. The throats of the two birds, although beautifully coloured, are not luminous.

## 178. CALLIPHLOX AMETHYSTINA . . . . . Vol. III. Pl. 159.

*Trochilus brevicaudus*, Spix, Av. Bras. tom. i. p. 79, tab.

——— *orthurus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 60, pl. 8?

*Cynanthus amethystinus*, Id. ib. vol. ii. p. 143.

———? *orthura*, Id. ib. vol. ii. p. 143?

*Habitat.* Brazil, Demerara, Cayenne, and Trinidad.

Whether the *Ornismya orthura* of Lesson be a species or an old female of *C. amethystina* requires further investigation. Wherever the *C. amethystina* is found in Brazil, Trinidad, or Demerara, the *O. orthura* is found in its company—a fact which militates against its being a distinct species.

## 179. CALLIPHLOX AMETHYSTOIDES, Less.

*Trochilus amethystoides*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 62.

*Cynanthus amethystoides*, Id. ib. vol. ii. p. 143.

*Calliphlox amethystoides*, Bonap. Consp. Gen. Av. p. 84.

*Habitat.* Minas Geraes in Brazil.

In my account of *C. amethystina* I have regarded this species as identical with that bird; but M. Bourcier is still of opinion that it is distinct; and as I find that it is of smaller size, and the tint of the gorget is somewhat different, I defer to his opinion. It will not, however, be necessary to give a separate figure of it. Specimens from Minas Geraes are certainly more diminutive than from elsewhere.

## 180. CALLIPHLOX? MITCHELLI . . . . . Vol. III. Pl. 160.

*Habitat.* Southern parts of New Granada and Ecuador.

I have now gone through the species of Humming-Birds distinguished for their diminutive size, the delicacy of their structure, and for their luminous gorgets. It is true that many other groups have their throats similarly adorned, such as the members of the genera *Oreotrochilus*, *Heliangelus*, &c.; but these birds are all of large size and of very different form, and as we proceed I think it will be seen that they are better placed hereafter. I proceed next, then, with the racket-tailed species—the *Spathura*, &c. I admit that there is no direct alliance between these and the former; but it will be recollected that I have stated that the Humming-Birds cannot be arranged in anything like a series of affinities. Here, then, we commence with a very different group; remarkable for the peculiar character of the tail in most of its members. Among these I place in the foremost rank the extraordinary bird bearing the specific name *mirabilis*. As any description, however accurate, must fail to give a correct idea of this singular species, I must refer my readers to the Plate, upon which it is correctly depicted.

## Genus LODDIGESIA, Gould.

(*Loddiges*, nom. prop.)

*Male.*—Bill straight and longer than the head; wings diminutive; primaries rounded at the tip; outer tail-feather on each side very much prolonged, and terminating in a large spatule.

*Female.*—Unknown.

## 181. LODDIGESIA MIRABILIS, Gould . . . . . Vol. III. Pl. 161.

*Habitat.* Chachapoyas in Peru.

The racket-tailed birds I have figured under the generic name of *Spathura* are spread over the temperate regions of the great Andean range of mountains from the northern parts of New Granada to Bolivia. Much confusion prevails with respect to the generic appellation of these birds. The case stands thus: in 1846 I proposed the term *Ocreatus*, and in 1850 substituted that of *Spathura*; while in 1849 Dr. Reichenbach employed that of *Steganurus*, which he changed in 1853 to *Steganura*. In the body of this work all the species are arranged under my own generic name, which I hope may be allowed to stand.

Genus SPATHURA, *Gould*.

(Σπάθη, spatha, et οὐρά, cauda.)

Generic characters.

*Male*.—*Bill* straight and rather longer than the head; *wings* moderately long and somewhat rounded; *tail* deeply forked; the outer tail-feather on each side terminating in a spatule; *feet* small; *tarsi* thickly clothed; *hind toe* and *nail* shorter than the middle toe and nail; *throat* luminous.

*Female*.—Unadorned and destitute of spatules.

182. SPATHURA UNDERWOODI . . . . . Vol. III. Pl. 162.

*Ornismya Kieneri*, Less. Les Troch. p. 165, pl. 65, female.

*Cynanthus Underwoodi*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 144.

——— *Kienerii*, Id. ib. p. 146.

*Steganura spatuligera*, Reichenb. Aufz. der Col. pp. 8 & 24; Id. Troch. Enum. p. 5, pl. 708. figs. 4598-4600.

——— *Underwoodi*, Cab. et Hein. Mus. Hein. Theil iii. p. 66.

*Steganura remigera*, Reichenb. Aufz. der Col. pp. 8, 24; Id. Troch. Enum. p. 5, pl. 708. figs. 4601-2.

*Steganurus remigera*, Cab. et Hein. Mus. Hein. Theil iii. p. 67.

*Habitat*. The neighbourhood of Bogota, on the Andes, and the hilly portion of eastern Venezuela.

In his 'Trochilinarum Enumeratio' Dr. Reichenbach has figured a white-booted Racket-tail under the name of *Steganura remigera*, which, after a careful examination of the type specimen, I have no doubt is identical with this species, I have therefore placed that name among its synonyms.

183. SPATHURA MELANANTHERA, *Jard*. . . . . Vol. III. Pl. 163.

*Habitat*. Ecuador.

Mr. Fraser, who procured specimens of *S. melanantha* at Pallatanga and Nanegal in Ecuador, states that its feet are "white."

184. SPATHURA PERUANA, *Gould* . . . . . Vol. III. Pl. 164.

*Habitat*. Moyobamba in Peru.

185. SPATHURA RUFOCALIGATA, *Gould* . . . . . Vol. III. Pl. 165.

*Habitat*. La Paz in Bolivia.

The *Trochilus Addæ* of M. Bourcier is considered to be identical either with the *S. Peruana* or the present bird; in all probability it was applied to the latter; and if this should prove to be the case, the term *Addæ*, having been proposed prior to that of *rufocaligata*, should be adopted for this species.

186. SPATHURA CISSIURA, *Gould* . . . . . Vol. III. Pl. 166.

*Habitat*. Peru.

Perhaps the next in affinity, although not directly allied, are the members of the genus *Lesbia*, which are equally confined to the Andes, and fly at the same elevation as the *Spathuræ*. Like those birds, they are distributed along that great chain of mountains, throughout many degrees of latitude on each side of the equator. They may be regarded as among the most elegant of the Trochilidæ. Their long and deeply cleft tails would seem to indicate that they possess very great powers of aerial progression,—a remark which equally applies to the members of the genera *Cynanthus* and *Cometes*.

Genus LESBIA, *Less*.

187. LESBIA GOULDI . . . . . Vol. III. Pl. 167.

*Agachyta Gouldi*, Cab. et Hein. Mus. Hein. Theil iii. p. 70.

*Habitat*. The high lands of New Granada, particularly the neighbourhood of Bogota.

188. LESBIA GRACILIS, *Gould* . . . . . Vol. III. Pl. 168.

*Habitat*. Ecuador.

189. LESBIA NUNA . . . . . Vol. III. Pl. 169.

*Habitat*. Peru.

Refer to my remarks respecting this bird in the letter-press accompanying the Plate.

190. LESBIA AMARYLLIS . . . . . Vol. III. Pl. 170.

*Trochilus Victoriae*, Bourc. Rev. Zool. 1846, p. 315, pl. 4.



*Mellisuga Victorie*, Gray & Mitch. Gen. of Birds, vol. i. p. 103, *Mellisuga*, sp. 54.

*Cynanthus victorie*, Bonap. Consp. Gen. Av. tom. i. p. 81. *Cynanthus*, sp. 6.

*Lesbia Victorie*, Reichenb. Aufz. der Col. p. 8; Id. Troch. Enum. p. 5, pl. 715. figs. 4622-23.

*Psaliidoprymna Victorie*, Cab. et Hein. Mus. Hein. Theil iii. p. 52.

*Habitat.* New Granada, Ecuador, and Peru.

Dark or nearly black varieties not unfrequently occur among the Trochilidæ; and I think that the bird to which M. Bourcier has given the name of *Victorie* is merely such a variety of the *L. Amaryllis*.

191. *LESBIA EUCHARIS* . . . . . Vol. III. Pl. 171.

*Lesbia bifurcata*, Reichenb. Troch. Enum. p. 5, pl. 716. figs. 4624-25.

*Habitat.* New Granada.

Considerable, and I fear inextricable, confusion exists with regard to the genera *Lesbia* and *Cynanthus*; which would appear to be due to the various authors who have used those terms taking their characters from defective descriptions or imperfect drawings, instead of actual specimens. This confusion I have endeavoured to rectify by applying the terms to the birds which I believe their respective proposers actually intended, and I do hope that, for the sake of science, they will be allowed so to stand for the future.

Leaving the genus *Lesbia*, then, we proceed to that of *Cynanthus*, and here we arrive at some of the most remarkable and the most beautiful of the Trochilidæ. Strictly confined to the great Andean mountains and the spurs which jut out as far as eastern Venezuela, these blue-tailed birds enjoy a range of habitat extending from the lands washed by the Caribbean Sea to Peru.

Those inhabiting the neighbourhood of Bogota appear to be divided into two or three local varieties or races; for they are not, in my opinion, sufficiently different to warrant us in regarding them as species. On the other hand, the Ecuadorian bird possesses characters which induced me to consider it distinct.

The variation observable among the Bogotan birds is principally in the colouring of the tail—some having the whole of the feathers blue, while others have the eight central ones tipped with beautiful green.

#### Genus *CYNANTHUS*, Swains.

192. *CYNANTHUS CYANURUS* . . . . . Vol. III. Pl. 172.

*Lesbia forficatus*, Reichenb. Aufz. der Col. p. 8; Id. Troch. Enum. p. 5, pl. 718. figs. 4628-29.

*Lesbia Gorgo*, Reichenb. Aufz. der Col. pp. 8, 24; Id. Troch. Enum. p. 5; Cab. et Hein. Mus. Hein. Theil iii. p. 71.

*Habitat.* New Granada.

A somewhat smaller and more delicate bird than the *Cynanthus cyanurus* occurs in Venezuela, having the whole of the body green, with the exception of a patch of blue on the throat; and the crown brilliant metallic green, without the superciliary stripe of black seen in that species: I refrain, however, for the present from characterizing it as distinct.

193. *CYNANTHUS CÆLESTIS*, Gould.

*Habitat.* Ecuador.

This new Humming-Bird is considerably larger than the *C. cyanurus*; it also presents a marked difference in the colouring of the under-surface, which is uniform coppery brown, instead of green; in other respects the colouring is very similar to the specimens from Bogota, with green and blue tails. In no instance have I seen a specimen from Ecuador with an entirely blue tail, whereas they frequently occur among those sent from Bogota.

194. *CYNANTHUS MOCOA*.

*Cynanthus smaragdicaudus*, Gould . . . . . Vol. III. Pl. 173.

*Habitat.* Peru and Bolivia.

Specimens of this species, like those of the *C. cyanurus*, are found to differ considerably; but as it is a bird of comparative rarity, we have seen too few examples to come to any positive conclusion as to whether these are referable to one or two species. The *C. Mocoa* may be regarded as the southern representative of the *C. cyanurus*. It frequents the forests of Bolivia and Peru, particularly those clothing the eastern slopes of the great Andean range.

As the *Lesbiæ* naturally led us on to the *Cynanthi*, so do the latter in their broad tail-feathers offer an alliance to the *Cometæ*; and, however much I have extolled the beauty of any of the preceding genera, it is scarcely possible

to select terms sufficiently expressive to convey an idea of the loveliness of the birds comprised in this latter genus. The two birds generally known under the names of *Sappho* and *Phaon* are *par excellence* the most gorgeous birds in existence so far as regards the colouring of their tails; and well do these living meteors deserve the more general name of *Comets*.

Genus COMETES, *Gould*.

(Κομήτης, cometa.)

Generic characters.

*Male*.—Bill longer than the head, straight or slightly arched; wings moderate; tail long and deeply forked, the feathers broad and luminous; tarsi naked; feet small; hind toe and nail nearly as long as the middle toe and nail; throat luminous.

*Female*.—Smaller in size, and nearly destitute of fine colouring.

195. COMETES SPARGANURUS . . . . . Vol. III. Pl. 174.

*Cynanthus sparganurus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 146.

*Trochilus* (*Cynanthus*) *chrysurus*, Tsch. Consp. p. 36, sp. 200; Id. Faun. Per. p. 244.

*Orthorhynchus chrysurus*, D'Orb. et Lafres. Syn. p. 26.

*Sappho sparganura*, Reich. Aufz. der Col. p. 9; Id. Troch. Enum. p. 5, pl. 724. figs. 4651–52.

*Lesbia sparganura*, Bonap. Rev. et Mag. de Zool. 1854, p. 252.

*Sparganura Sappho*, Cab. et Hein. Mus. Hein. Theil iii. p. 52.

*Habitat*. Bolivia.

196. COMETES PHAON, *Gould* . . . . . Vol. III. Pl. 175.

*Sappho Phaon*, Reich. Aufz. der Col. p. 9; Id. Troch. Enum. p. 5, pl. 725. figs. 4653–54.

*Lesbia phaon*, Bonap. Rev. et Mag. de Zool. 1854, p. 252.

*Sparganurus Phaon*, Cab. et Hein. Mus. Hein. Theil iii. p. 52, note

*Habitat*. Peru.

197. COMETES? GLYCERIA . . . . . Vol. III. Pl. 176.

*Sparganura Mossai*, Cab. et Hein. Mus. Hein. Theil iii. p. 52, note.

*Habitat*. Popayan in New Granada.

This is perhaps the most extraordinary bird I have had the good fortune to describe. I have placed it in the genus *Cometes* with a reservation; for it comprises characters which are found both in *Lesbia* and *Cometes*: in form it most nearly approaches the latter, while in its markings and in the colouring of its throat it resembles the former. At present only a single example has been obtained, and this, I am inclined to think, is not quite adult; it may possibly be only a young male of a splendidly coloured but unknown species; and if so, a fine bird remains in store to reward the researches of some future explorer.

198. COMETES? CAROLI . . . . . Vol. III. Pl. 177.

*Habitat*. Peru.

Of this remarkable bird about four specimens have been in our collections for many years; but whether they are males or females is unknown; for in fact nothing has been recorded respecting these puzzling birds. If the description accompanying my plate of the species be referred to, it will be seen that it has been bandied about from one genus to another, different authors having assigned it to *Trochilus*, *Hylocharis*, *Calliphlox*, and *Avocettinus*! Some day, when the little-known country of Peru has been more fully investigated, we shall doubtless acquire a better knowledge of it, and be able to decide to which genus it really pertains; for the present let it remain in the one in which I have placed it.

Genus PTEROPHANES, *Gould*.

(Πτερόν, ala, et φαίνω, ostendo.)

Generic characters.

*Male*.—Bill cylindrical, longer than the head, and slightly upcurved; wings very large and sickle-shaped; tail broad and large; tarsi clothed; feet small; hind toe shorter than the middle one; claws long, slightly curved, and sharp at the point.

*Female*.—Unadorned.

199. *PTEROPHANES TEMMINCKI* . . . . . Vol. III. Pl. 178.  
*Pterophanes Temmincki*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 11; Cab. et Hein. Mus. Hein.  
 Theil iii. p. 80.

*Habitat.* New Granada and Ecuador.

The *Pterophanes Temmincki* must rank with the *Patagona gigas* among the very largest of the Humming-Birds; the two species are nearly equal in size, but in their structure and the colouring of their plumage they are very different. The native country of the *P. Temmincki* is the temperate portion of the Andes, over which it ranges for a considerable distance from Bogota, the probable centre of its area. I have also seen specimens from Ecuador, where it appears to be scarce. This fine bird is rendered a very striking species by the beautiful blue colouring of its wings.

Genus *AGLÆACTIS*, *Gould*.

(*Ἀγλαΐα*, splendor, et *ἄκτις*, radius solaris.)

Generic characters.

*Male*.—*Bill* rather short, depressed at the base, and straight; *wings* long and powerful; *primaries*, particularly the outer one, sickle-shaped; *tail* moderately large, and slightly forked when closed; *tarsi* partially clothed; *feet* strong and powerful; *hind toe* and *nail* longer than the middle toe and nail; *breast* ornamented with a tuft of lengthened plumes; *back* luminous when viewed from behind.

The birds for which I instituted the above genus have always greatly interested me. They are of large size, have very ample wings, and are distinguished from all other Humming-Birds by their luminous backs, of which the rich and glittering hues are only perceptible when viewed from behind, or reversely to the direction of the feathers—contrary to the law which regulates the disposition of the colouring in all the other genera, except in *Cæligena*, where it is slightly apparent. All the species are natives of the Andes, over which they roam from the northern part of New Granada to Bolivia. The latter country is the cradle of the *Aglæactis Castelnaudi* and the richly coloured *A. Pamela*. These extraordinary birds, to which I have given the trivial name of Sunbeams, are among the most wonderful of the Trochilidæ.

200. *AGLÆACTIS CUPRIPENNIS* . . . . . Vol. III. Pl. 179.  
*Aglæactis cupripennis*, Cab. et Hein. Mus. Hein. Theil iii. p. 69.

*Habitat.* New Granada.

Professor Jameson and Mr. Fraser state that “The females of this species have the glittering back, but not so brilliant as in the males.”—*Ibis*, vol. i. p. 400.

201. *AGLÆACTIS ÆQUATORIALIS*.  
*Aglæactis æquatorialis*, Cab. et Hein. Mus. Hein. Theil iii. p. 70, note.

*Habitat.* Ecuador.

This bird is considered distinct from *H. cupripennis* by Dr. Cabanis; but the only difference I can perceive between this and Bogota specimens is in its larger size and longer wing; but if this be admitted as a species, I must further increase the list by calling another *parvula*, of which I have two specimens shot by M. Warszewicz in Peru or Bolivia; for the precise locality is unknown to me.

202. *AGLÆACTIS PARVULA*, *Gould*.  
*Habitat.* Peru, or Bolivia.

This bird has a much shorter bill, is of a deeper red on the under-surface, more red in the tail, and altogether of much smaller size.

Total length  $4\frac{1}{2}$  inches; bill  $\frac{1}{6}$ ; wing 3; tail  $1\frac{3}{4}$ .

203. *AGLÆACTIS CAUMATONOTA*, *Gould*.  
*Aglæactis caumatonotus*, Gould in Proc. Zool. Soc. part xvi. 1848, p. 12.  
*Habitat.* Peru, or Bolivia.

Described by me as above from a single specimen said to have been procured in Peru, which differs from the preceding in being of smaller size and in the darker hue of the luminous portion of the back.

204. *AGLÆACTIS CASTELNAUDI* . . . . . Vol. III. Pl. 180.  
*Aglæactis Castelnaudi*, Reichenb. Aufz. der Col. p. 9.  
*Helianthea Castelnaudi*, Reichenb. Troch. Enum. p. 6, pl. 739. figs. 4694–95.



*Aglaiactis Castelnaudi*, Cab. et Hein. Mus. Hein. Theil iii. p. 69, note.

*Ornismya castelnaudii*, Dev. Rev. et Mag. de Zool. 1852, p. 216.

*Habitat.* The mountains near Cusco in Peru.

M. Deville says, "This bird, which is very rare, confines itself to the blossoms of a species of *Mimosa*, the odours of which attract the small insects which form its food. Its cry is very piercing; its flight very rapid and noisy. The species, which is quite new, was killed by myself in the valley of Echaraté, near Cusco."

205. *AGLÆACTIS PAMELA* . . . . . Vol. III. Pl. 181.

*Aglaiactis Pamelae*, Cab. et Hein. Mus. Hein. Theil iii. p. 69.

*Habitat.* Bolivia.

Distinct from every other genus are the two species of *Oxygogon*. These bearded birds stand quite alone among the Trochilidæ; and although not remarkable for brilliancy of colour, their fantastic markings, towering crests, and lengthened beards render them very conspicuous objects. I shall not be surprised if other species of this form be discovered when the higher peaks of the great Andean range of mountains have been more closely examined.

For a long time the *Oxygogon Guerini* was the only species known; but in the year 1842 the intrepid traveller Mons. J. Linden ascended the high mountains of the Sierra Nevada de Merida, and was rewarded by the discovery of the second species, which bears his name.

#### Genus *OXYGOGON*, *Gould*.

(Ὀξύς, acutus, et πῶγων, barba.)

Generic characters.

*Male*.—*Bill* shorter than the head, feeble, and straight; *face* both above and below ornamented with lengthened plumes, the former erect, the latter pendent; *wings* rather long; *tail* large and forked when closed; *tarsi* bare; *feet* large and strong; *hind toe* and *nail* longer than the middle toe and nail.

*Female*.—Smaller, and destitute of the ornamental face-plumes.

206. *OXYGOGON GUERINI* . . . . . Vol. III. Pl. 182.

*Oxygogon Guerini*, Reichenb. Aufz. der Col. p. 12; Id. Troch. Enum. p. 10; Cab. et Hein. Mus. Hein. Theil iii. p. 67.

*Habitat.* New Granada; plentiful around Bogota.

207. *OXYGOGON LINDENI* . . . . . Vol. III. Pl. 183.

*Oxygogon Lindeni*, Reichenb. Aufz. der Col. p. 12; Id. Troch. Enum. p. 10; Cab. et Hein. Mus. Hein. Theil iii. p. 67, note.

*Habitat.* The Sierra Nevada de Merida in New Granada.

"This bird," says M. Linden, "inhabits the regions immediately beneath the line of perpetual congelation, and never at a less elevation than 9000 feet." It might be thought that such bleak and inclement situations were ill adapted for so delicate a structure as that of the Humming-Bird; but there, and there only, does it dwell, while the equally lofty Paramos of Bogota are the native locality of the allied species *O. Guerini*. The minute insects which frequent the alpine flora of these districts afford abundance of food to these birds; and beautifully constructed are their little bills for searching among the flowers in which they are found.

Near the members of the genus *Oxygogon* are the various species of *Ramphomicron*, another bearded group, but differing in the total absence of any lengthened plumes on the crown, and in the structure and colour of the pendent chin-feathers. It will only be necessary to glance at the plates on which these species are depicted to perceive that, though they bear a general resemblance to the *Oxygogons*, they are generically distinct from them. Their short and feeble bills indicate that they feed on a similar kind of insect food; and we know that such flowers as those of *Sida* and other plants with open corollas are frequently visited for the insects which abound therein.

It is said that the members of this genus fly with great rapidity, and that, like flashes of light, they are constantly dashing about the hill-sides from one flower to another. It must be extremely interesting to watch the aerial movements of these comparatively large birds among the lofty regions they frequent, and where the air is so pure and rarefied. In all the hilly countries, from the Caribbean Sea southward to Bolivia, are the members of this genus to be obtained; in the neighbourhood of Bogota one of them is very common: this bird (the *R. heteropogon*) extends its range from thence to about the latitude of Popayan, while the little *R. microrhynchum* is equally abundant

in New Granada and Ecuador. At Quito, or around those towering mountains immediately under the equator, we find the *R. Stanleyi* and *R. Herrani*; while Bolivia gives us the *R. Vulcani* and the *R. ruficeps*.

Genus RAMPHOMICRON, *Bonap.*

208. RAMPHOMICRON HETEROPOGON . . . . . Vol. III. Pl. 184.  
*Lampropogon heteropogon*, Bonap. Rev. et Mag. de Zool. 1854, p. 252.  
*Chalcostigma heteropogon*, Reichenb. Aufz. der Col. p. 12.  
*Ramphomicron heteropogon*, Reichenb. Troch. Enum. p. 10; Cab. et Hein. Mus. Hein. Theil iii. p. 67.  
*Habitat.* New Granada.  
 I possess two very marked varieties or races of this bird, one being much smaller than the other: the large race, I believe, is from Pamplona, and the smaller from the neighbourhood of Bogota.
209. RAMPHOMICRON STANLEYI . . . . . Vol. III. Pl. 185.  
*Chalcostigma Stanleyi*, Reichenb. Aufz. der Col. p. 12; Id. Troch. Enum. p. 10.  
*Habitat.* Ecuador.
210. RAMPHOMICRON VULCANI, *Gould* . . . . . Vol. III. Pl. 186.  
*Habitat.* Bolivia.
211. RAMPHOMICRON HERRANI . . . . . Vol. III. Pl. 187.  
*Chalcostigma Herrani*, Reichenb. Aufz. der Col. p. 12; Id. Troch. Enum. p. 10.  
*Lampropogon herrani*, Bonap. Rev. et Mag. de Zool. 1854, p. 253.  
*Habitat.* Ecuador.
212. RAMPHOMICRON RUFICEPS, *Gould* . . . . . Vol. III. Pl. 188.  
*Ramphomicron ruficeps*, Reichenb. Aufz. der Col. p. 12; Id. Troch. Enum. p. 10.  
*Lampropogon ruficeps*, Bonap. Rev. et Mag. de Zool. 1854, p. 253.  
*Habitat.* Bolivia.
213. RAMPHOMICRON MICRORHYNCHUM . . . . . Vol. III. Pl. 189.  
*Ramphomicron microrhynchum*, Reichenb. Aufz. der Col. p. 12; Id. Troch. Enum. p. 10, pl. 718. figs. 4915-18.  
*Ramphomicrus microrhynchus*, Cab. et Hein. Mus. Hein. Theil iii. p. 70.  
*Trochilus euanthes*, Licht. in Mus. of Berlin.  
*Habitat.* The Andes from the Equator to seven degrees north.

I must now ask those who take an interest in the various forms of this family of birds, to turn to my plate of *Urosticte Benjamini*, and examine the little bird figured thereon with a beautiful gorget of green and purple. This species is rendered very singular by the two tufts of white feathers which spring from behind the eye, and still more so by the white tipping of the four central tail-feathers. Ornithologists will view this character with astonishment, and inwardly ask, Is this particular mark given for a special purpose in connexion with the economy of the bird, or for the mere purpose of ornament? That ornament and variety is the sole object, I have myself but little doubt. Of this recently acquired form, the single species to which I have assigned the generic name of *Urosticte* is all that is known. Like so many others that have preceded it, this is an Andean species, its native country being Ecuador.

Genus UROSTICTE, *Gould.*

(Οὐρά, cauda, et στικτός, notatus.)

Generic characters.

*Male*.—*Bill* much longer than the head, and straight; *head* round, the feathers not advancing on the bill; *wings* moderately long and rather pointed; *tail* slightly forked; *tarsi* clothed; *hind toe* shorter than the middle toe; *throat* luminous.

*Female*.—Unadorned.

214. UROSTICTE BENJAMINI . . . . . Vol. III. Pl. 190.  
*Urosticta Benjamini*, Reichenb. Aufz. der Col. p. 13.  
*Basilinna Benjamini*, Reichenb. Troch. Enum. p. 11.  
*Urosticte benjaminus*, Bonap. Rev. et Mag. de Zool. 1854, p. 253.  
*Habitat.* Ecuador.

It will have been observed that each of the foregoing groups is characterized by certain peculiarities, and that one feature is more prominent than the others in each of the different forms: in some the back, and back only, is lit up with luminous colours; in others the throat is the only part thus adorned; in another (the *Pterophanes*) the wings alone are lustrous. The group which stands next on my list of genera and species have their share of ornament disposed on their broad and ample tails: in nearly every species this organ is illumined with brilliantly shining colours—some blue, others purple, and others, again, bronze; in some these glittering hues appear on both the upper and under surface, while in others it is either confined to or is most brilliant on the latter. These colours, I am sure, the bird has the power of displaying to the greatest advantage, in order to render himself as attractive as may be when desirous of pleasing the female, perhaps, like the Peacock, for the purpose of his own vainglory. These varied beauties serve to increase our admiration of Nature's works; at least such is the feeling they create in my own breast.

### Genus METALLURA, Gould.

(Μέταλλον, metallum, et οὐρά, cauda.)

Generic characters.

*Male*.—Bill straight and of moderate length; wings moderate; tail rather large and rounded; tarsi bare; feet rather large; hind toe and nail as long or longer than the middle toe and nail; throat and under surface of the tail luminous, like shining metal.

*Female*.—Much less brilliant than the male, and in most of the species destitute of the luminous throat-mark.

All the members of this genus are tenants of the Andes, and by far the greater portion of them of Bolivia and Peru; one species, however (the *M. tyrianthina*), ranges over the whole of the temperate portions of New Granada. I now proceed to arrange the species according to their affinities, commencing with the largest and most gorgeously coloured.

215. METALLURA CUPREICAUDA, Gould . . . . . Vol. III. Pl. 191.  
*Trochilus (Lampornis) opaca*, "Licht." Tschudi, Consp. pp. 38, 210; Id. Faun. Peru. p. 248, 13.  
*Metallura opaca*, Cab. et Hein. Mus. Hein. Theil iii. p. 69.  
*Habitat*. Bolivia.
216. METALLURA ÆNEICAUDA, Gould . . . . . Vol. III. Pl. 192.  
*Urolampira æneicauda*, Cab. et Hein. Mus. Hein. Theil iii. p. 68.  
*Habitat*. Bolivia.
217. METALLURA WILLIAMI . . . . . Vol. III. Pl. 193.  
*Urolampira williami*, Cab. et Hein. Mus. Hein. Theil iii. p. 68, note.  
*Habitat*. Popayan.
218. METALLURA PRIMOLII, Bonap. . . . . Vol. III. Pl. 194.  
*Habitat*. Peru.
219. METALLURA TYRIANTHINA . . . . . Vol. III. Pl. 195.  
*Urolampira tyrianthina*, Cab. et Hein. Mus. Hein. Theil iii. p. 68.  
*Habitat*. New Granada.

In my account of *Metallura tyrianthina*, I have given that bird a very wide range of habitat, extending from the Gulf of Darien to Ecuador; but having since had ample opportunities for examining numerous specimens from every locality, I find that the birds from Ecuador are so much larger than those from Bogota that I cannot do otherwise than regard them as distinct. In examples from the two localities mentioned, there is a difference of more than half an inch in the length of their wings, and fully an eighth in the length of their bills; I observe also that the small birds from Bogota are much more richly coloured than the larger ones from Ecuador; the throat is of a more beautiful green, the abdomen much darker, and the reddish-purple of the tail more resplendent; believing the Ecuadorian bird to be distinct, I have no alternative but to give it a name, and I therefore propose for it that of *Quitensis* :—

220. METALLURA QUITENSIS, Gould.  
*Habitat*. Ecuador.



221. METALLURA SMARAGDINICOLLIS . . . . . Vol. III. Pl. 196.  
*Urolampra smaragdinicollis*, Cab. et Hein. Mus. Hein. Theil iii. p. 68, note.  
*Habitat.* Peru and Bolivia.

Varied as have been the subjects hitherto referred to in the present volume, and beautiful as is the colouring of many of the species, the next genus is composed of birds which cannot boast of any brilliancy of colouring; on the contrary, they are clothed in very sombre attire, and have nothing to recommend them to our notice but chaste and delicate hues; still in my opinion they are not the less interesting.

Genus ADELOMYIA, *Bonap.*

222. ADELOMYIA INORNATA . . . . . Vol. III. Pl. 197.  
*Adelisca inornata*, Cab. et Hein. Mus. Hein. Theil iii. p. 72, note.  
*Habitat.* Bolivia.
223. ADELOMYIA MELANOGENYS . . . . . Vol. III. Pl. 198.  
*Adelisca melanogenys*, Cab. et Hein. Mus. Hein. Theil iii. p. 72.  
*Habitat.* New Granada.

Precisely the same kind of difference occurs between examples of this form from Venezuela and Ecuador that has been described as occurring with regard to the *Metallura tyrianthina* and *M. Quitensis*. The species of *Adelomyia* inhabiting Ecuador and Peru is very considerably larger than the *A. melanogenys* from Venezuela; it has more buff at the base of the tail-feathers, and a much more conspicuously spotted throat and breast; for this Ecuadorian bird I therefore propose the name of *maculata* :—

- 224 ADELOMYIA MACULATA, *Gould* . . . . . Vol. III. Pl. 199.  
*Habitat.* Ecuador.

*Avocettula* and *Avocettinus* are the generic terms applied to the two species rendered remarkable by the points of the mandibles being curved upwards in the shape of a hook: this extraordinary deviation from the usual structure is doubtless designed for some especial purpose; but what that may be, is at present unknown to us.

In placing these two species near to each other, I do not mean to convey an idea that they are very nearly allied. One is an inhabitant of the Andes, the other of Guiana and the neighbouring countries. Nothing whatever is known respecting these singular birds.

Genus AVOCETTINUS, *Bonap.*

225. AVOCETTINUS EURYPTERUS . . . . . Vol. III. Pl. 200.  
*Opisthoprora euryptera*, Cab. et Hein. Mus. Hein. Theil iii. p. 76, note.  
*Habitat.* The high lands of New Granada.

Genus AVOCETTULA, *Reichenb.*

226. AVOCETTULA RECURVIROSTRIS . . . . . Vol. III. Pl. 201.  
*Trochilus avocetta*, Jard. Nat. Lib. Humming Birds, vol. i. p. 78, pl. 2.  
 ——— *recurvirostris*, Jard. Nat. Lib. Humming Birds, vol. ii. p. 80.  
*Hylocharis avocetta*, Gray & Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 12.  
*Streblorhamphus recurvirostris*, Cab. et Hein. Mus. Hein. Theil iii. p. 76.  
*Habitat.* The Guianas.

Genus ANTHOCEPHALA, *Cab.*

This generic term has been proposed by Dr. Cabanis for the bird I have figured under the name of *Adelomyia floriceps*, which is at present the only species of the form known; for, although I have ventured to place with it my *Adelomyia ? castaneiventris*, I am unable to say, from the imperfect materials at my command, whether it really belongs to the present or to some other genus.

227. ANTHOCEPHALA FLORICEPS.  
*Adelomyia floriceps*, *Gould* . . . . . Vol. III. Pl. 202.  
*Anthocephala floriceps*, Cab. et Hein. Mus. Hein. Theil iii. p. 72, note.  
*Habitat.* Columbia.

## 228. ANTHOCEPHALA ? CASTANEIVENTRIS.

*Adelomyia* ? *castaneiventris*, Gould . . . . . Vol. III. Pl. 203.  
*Habitat.* Chiriqui.

The fourth volume commences with a species which plays no inconsiderable part as an article of trade ; for it is the one, *par excellence*, of which thousands are annually sent to Europe for the purpose of contributing to the decorations of the drawing-rooms of the wealthy, for the manufacture of artificial flowers, &c. ; and well suited is it for such purposes, its rich ruby and topaz-like colouring rendering it one of the most conspicuous and beautiful objects imaginable. The *Chrysolampis moschitus* (better known by its trivial name of Ruby and Topaz Humming-Bird) enjoys a very wide range, being found all over the eastern parts of Brazil, Cayenne, Guiana, Venezuela, the high lands of Bogota, and Trinidad.

The females of this form differ very widely from the males in the colouring of their plumage ; and the young males undergo so many changes between youth and maturity, that they must have puzzled the most astute of ornithological investigators.

## Genus CHRYSOLAMPIS, Boié.

## 229. CHRYSOLAMPIS MOSCHITUS . . . . . Vol. IV. Pl. 204.

*Chrysolampis moschita*, Cab. et Hein. Mus. Hein. Theil iii. p. 21.

*Chrysolampis Reichenbachii*, Cab. et Hein. Mus. Hein. Theil iii. p. 21.

*Habitat.* Guiana, Cayenne, Brazil, Venezuela, the Andes of New Granada, and the islands of Trinidad and Tobago.

Dr. Cabanis is of opinion that the bird from New Granada is distinct from that obtained in the other localities ; but I must receive more decided evidence that such is the case than I at present possess, before I can admit that there is any difference between the Andean and Brazilian examples ; for the present, therefore, I place his name of *C. Reichenbachii* as a synonym of *C. moschitus*, which I believe to be the only species yet known of the genus.

"This pretty little species" [says Mr. Kirk] "arrives in Tobago at the end of January or about the 1st of February. It begins to build about the 10th, lays two pure-white eggs, and sits fourteen days. It feeds on ants as well as flowers. I detected 115 small insects in the stomach of one I dissected. One of these birds having attached its nest to the trunk of a logwood tree close to a window of my residence, I had an opportunity of observing its manners during incubation, and I can assert that, although I confined the young by means of some coarse wire cloth, through which the parent could feed them, for upwards of three weeks after they were ready to leave the nest, and although she evinced the greatest distress by her chirping note when flying around me, often within three feet, I never but twice, from the laying until the period I mention, saw a male near the nest ; and whether they pair seems to be disputed, as on both these occasions he was hotly pursued by the female to a considerable distance with all the bickering violence so peculiar to the tribe."—*Horæ Zoologicae*, by Sir. W. Jardine, Bart., in *Ann. and Mag. Nat. Hist.* vol. xx. p. 373.

In proceeding next to the genus *Orthorhynchus*, composed of birds ornamented with glittering green and blue crests, I do not insist that they have any direct affinity with the last, nor are they intimately allied to the members of the succeeding one : a more isolated form, in fact, is not to be found among the Trochilidæ. Only two species have been recorded by previous writers ; but specimens of a third are contained both in the Loddigesian and my own collections : I allude to the bird here described under the name of *Orthorhynchus ornatus*.

All the members of the

## Genus ORTHORHYNCHUS, Cuv.,

are confined to the West India Islands ; but our present knowledge of them does not admit of my stating positively the extent of the range of each species ; this is a point which requires further investigation. The females differ from the males in being destitute of the glittering crown.

## 230. ORTHORHYNCHUS CRISTATUS . . . . . Vol. IV. Pl. 205.

*Orthorhynchus cristatus*, Cab. et Hein. Mus. Hein. Theil iii. p. 61.

*Habitat.* Barbadoes, and St. Vincent.

The Rev. Lansdown Guilding states that this species “sometimes deviates from its usual habits. In general it is remarkably wild, and soon disturbed. I once, however, saw a pair of these species almost domesticated, in the house of a gentleman whose kindness and humanity had brought round him many a lizard and winged pet. They built for many years on the chain of the lamp suspended over the dinner-table; and here they educated several broods, in a room occupied hourly by the family. I have been seated with a large party at the table when the parent bird has entered, and, passing along the faces of the visitors, displaying his glorious crest, has ascended to the young without alarm or molestation.”—*Loudon’s Mag. Nat. Hist.* vol. v. p. 570.

231. ORTHORHYNCHUS ORNATUS, *Gould* . . . . . Vol. IV. Pl. 206.  
*Habitat.* One of the Windward Islands; but which of them, is unknown.

This species bears a general resemblance to the *O. cristatus*, but differs from that bird in being of a somewhat smaller size, and in having the basal two-thirds of the crest glittering green and the tip only blue; the crest is also longer and more elegant in form than that of *O. cristatus* or *O. exilis*. With the latter it never can be confounded, while the former may always be distinguished from it by the truncate form of the green portion of its crest. It is just possible that the birds represented on the 31st and 32nd plates of Lesson’s ‘*Histoire Naturelle des Oiseaux-mouches*’ may have reference to this bird.

232. ORTHORHYNCHUS EXILIS . . . . . Vol. IV. Pl. 207.  
*Habitat.* The Islands of Martinique, Nevis, St. Thomas, and St. Croix.

“After a careful examination of skins procured from St. Croix and St. Thomas,” says Mr. Alfred Newton, “we refer them to the above-named species, though one of a male presents a slightly different appearance from the ordinary type, in having a narrow blue edging to the otherwise golden-green crest, and thus exhibiting an affinity to the closely-allied Blue-crest (*O. cristatus*) from St. Vincent and Barbadoes. The present bird has, we believe, hitherto been known only from Martinique and Nevis.

“I shot a female of this species at Southgate farm on the north shore of the eastern end of the Island of St. Croix, where much of the land, being out of cultivation, is chiefly covered with Casha bushes, interspersed with Manchioneel along the coast. I have been told that a Humming-Bird smaller than the ordinary one, and therefore probably of this species, has been seen in other localities; but it must be very uncommon. Of its habits I know nothing.”—*Ibis*, vol. i. p. 141.

The Brazilian genus *Cephalapis* comprises two species, with lengthened ornamental crests terminating in a single plume, on which account they stand alone not only in their own family, but, so far as I am aware, among birds generally. The females are entirely devoid of this conspicuous character. I think it very probable that additional species of this form will be discovered when the natural productions of the interior of Brazil become better known.

Genus CEPHALEPIS, *Boié*.

233. CEPHALEPIS DELALANDI . . . . . Vol. IV. Pl. 208.  
*Cephalapis Delalandii*, Reichenb. Aufz. der Col. p. 12.  
*Orthorhynchus Delalandii*, Reichenb. Troch. Enum. p. 9.  
*Cephalolepis Delalandi*, Cab. et Hein. Mus. Hein. Theil iii. p. 61.  
*Habitat.* Southern Brazil.

234. CEPHALEPIS LODDIGESI, *Gould* . . . . . Vol. IV. Pl. 209.  
*Cephalapis Loddigesii*, Reichenb. Aufz. der Col. p. 12.  
*Orthorhynchus Loddigesii*, Reichenb. Troch. Enum. p. 9.  
*Cephalolepis Loddigesi*, Cab. et Hein. Mus. Hein. Theil iii. p. 61, note.  
*Habitat.* Minas Geraes and other parts of eastern Brazil.

Near to *Cephalapis* is the

Genus KLAIS, *Reichenb.*,

of which but one species is known. This singular bird, which has no ornamental crest, and but little fine colouring to recommend it to our notice, is a native of Venezuela and the hilly parts of New Granada. The females of this form are much less highly coloured than the males.



235. *KLAIS GUIMETI* . . . . . Vol. IV. Pl. 210.

*Basilinna Guimeti*, Reichenb. Troch. Enum. p. 12; Cab. et Hein. Mus. Hein. Theil iii. p. 45.

*Myiabella guimeti*, Sclat. in Proc. Zool. Soc., part xxv. p. 17.

*Mellisuga Merrittii*, Lawr. Ann. Lyc. Nat. Hist. in New York, vol. vii. April 9, 1860.

*Habitat.* Venezuela and the Andes of New Granada.

"In the district of El Mineral" in New Granada, says Dr. Merritt, "there has been a slight attempt at cultivation of the soil and planting of fruit-trees. The Orange, the Guama, and Guayava trees are the most numerous, particularly the last-named, which is very prolific, bearing nearly throughout the year fruit in all its stages from the blossom to maturity. Consequently the Guayava tree is the favourite resort of the Humming-Bird. I often watched these little creatures feeding and quarrelling around a tree near the door of my palm-leaf hut; and soon my attention was attracted to one much smaller than the rest, whose pugnacity and indomitable 'pluck' greatly amused me. Upon closer examination of this diminutive feathered warrior my interest increased, as I soon became convinced that it was new to me. I frequently afterwards saw numerous specimens of it, and almost invariably encountered them feeding from the blossoms of the Guayava, and I therefore conclude they are quite local in their habitat."

Genus *MYIABEILLIA*, *Bonap.*

This is a very distinct generic form. Like that of *Klais*, it contains but a single species, a delicately-formed bird inhabiting Mexico and Guatemala. The male is decorated with a brilliant green gorget, a feature which is entirely absent in the female.

236. *MYIABEILLIA TYPICA* . . . . . Vol. IV. Pl. 211.

*Baucis Abeillei*, Reichenb. Aufz. der Col. p. 13.

*Abeillia typica*, Bonap. Consp. Gen. Av. tom. i. p. 79, *Ramphomicron*, sp. 4.

*Basilinna Abeillii*, Reichenb. Troch. Enum. p. 11.

*Baucis Abeillei*, Cab. et Hein. Mus. Hein. Theil iii. p. 72.

*Habitat.* Mexico and Guatemala.

"Volcan de Fuego and Coban. The barrancos of the volcano are the only localities I am aware of, near Dueñas, where this species is found. Here, however, it is a common bird. It is usually to be seen feeding about upon the brushwood, seeking the flowers, &c. It is a restless species, but shows little symptoms of fear. My skins from the volcano are one female and three males. The proportions at Coban are very different. Here it is common, being found in all the mountain-hollows feeding among the *Salvia*. The ratio of the sexes is as twenty males to one female."—*Salvin* in *Ibis*, vol. ii. p. 262.

I must now direct the notice of my readers to some of the most chaste and elegant species yet discovered of this or any other family of birds—namely, the members of the genera *Heliactin*, *Heliothrix*, *Schistes*, and *Petasophora*.

Genus *HELIACTIN*, *Boié.*

The single species of this genus stands alone for the resplendent and richly coloured tufts of feathers which spring from above and behind the eye.

237. *HELIACTIN CORNUTA* . . . . . Vol. IV. Pl. 212.

*Heliactinus cornutus*, Burm. Th. Bras. tom. ii. p. 356.

*Trochilus bilobus*, Licht. in Mus. of Berlin.

*Heliactin cornuta*, Cab. et Hein. Mus. Hein. Theil iii. p. 64.

*Habitat.* Brazil, particularly the district of Minas Geraes.

The female of this species, like that sex in the genus *Heliothrix*, has a longer and more ample tail than her mate,—in which respect the form offers an affinity to the members of the succeeding genus.

Genus *HELIOTHRIX*, *Boié.*

This, like the last, is a very well-marked form, of which two species are natives of Central America and New Granada, one of the regions of the upper Rio Negro, and two of the rich country of Brazil. They are all distinguished by being decorated with beautiful blue tufts on the sides of the neck, relieved by glittering green cheeks and snowy breasts. In addition to this fine display of colours, two of them have rich blue crowns; there is

yet another character common, I believe, to the whole—that of the tail of the females being much larger and more lengthened than that of the males; the young males, too, have this organ much more prolonged than the adult males; they have all peculiarly sharp wedge-shaped bills, lengthened wings, and small feet. Judging from these points in their structure, I believe these birds to be endowed with the power of more rapid flight than any other members of the family.

238. *HELIOTHRIX AURITA* . . . . . Vol. IV. Pl. 213.  
*Trochilus leucocrotaphus*, Vieill. Nouv. Dict. d'Hist. Nat. tom. vii. p. 374; Id. Ency. Méth. Orn. part. 2nde, p. 571.  
*Heliothrix aurita*, Reichenb. Aufz. der Col. p. 13; Id. Troch. Enum. p. 11; Cab. et Hein. Mus. Hein. Theil iii. p. 28.  
*Habitat*. Northern Brazil, the banks of the Amazon, the Guianas, and Venezuela.
239. *HELIOTHRIX AURICULATA* . . . . . Vol. IV. Pl. 214.  
*Heliothrix auriculata*, Reichenb. Aufz. der Col. p. 13; Id. Troch. Enum. p. 11; Cab. et Hein. Mus. Hein. Theil iii. p. 28.  
 ——— *aurita, jun.*, Burm. Th. Bras. tom. ii. p. 336.  
*Habitat*. South-eastern Brazil.
240. *HELIOTHRIX PHAINOLÆMA*, *Gould* . . . . . Vol. IV. Pl. 215.  
*Heliothrix phaenoleuca*, Hartl. Wieg. Arch. xxii. 2. p. 23.  
 ——— *phaenolaema*, Cab. et Hein. Mus. Hein. Theil iii. p. 28, note.  
*Habitat*. The banks of the Upper Rio Negro.
241. *HELIOTHRIX BARROTI*.  
*Heliothrix purpureiceps*, *Gould* . . . . . Vol. IV. Pl. 216.  
*Heliothrix purpureiceps*, Gould in Proc. Zool. Soc., part xxiii. p. 87.  
 ——— *Barroti*, Salvin in Ibis, vol. iii. p. 410.  
 ——— *Barroti*, Reichenb. Aufz. der Col. p. 13; Id. Troch. Enum. p. 11; Cab. et Hein. Mus. Hein. Theil iii. p. 28, note.  
*Ornismya Gabriel*, Delatt. Echo du Monde Savant, No. 45, Juin 15, 1843, col. 1070.  
*Habitat*. Guatemala, Costa Rica, and the forests of New Granada bordering the Pacific coast, as far south as Ecuador; Esmeraldas (*Fraser*).
242. *HELIOTHRIX VIOLIFRONS*, *Gould*.  
*Heliothrix Barroti* . . . . . Vol. IV. Pl. 217.  
*Habitat*. Carthagera, or Veragua.  
 On receiving this bird from M. Warszewicz, I considered it to be referable to the *Heliothrix Barroti*, and accordingly figured and described it under that name. Subsequently I received another bird with a differently coloured crown, which, believing it to be new, I described and figured as *H. purpureiceps*, but I now find that the latter is the true *H. Barroti*, and that the former is a new bird; I therefore propose for it the distinctive appellation of *H. violifrons*.

Between the genera *Heliothrix* and *Petasophora* appears to be the proper situation for my genus *Schistes*; for to the former it is nearly allied in its wedge-shaped bill, and to the latter in the colouring of the tail. The three species known are all inhabitants of the Andes of New Granada and Ecuador. I have often thought that the white gular mark in *Schistes albigularis* is characteristic of immaturity; but this is by no means certain.

#### GENUS SCHISTES, *Gould*.

(Σχίζω, findo.)

Generic characters.

*Male*.—*Bill* longer than the head, straight, wedge-shaped at the tip; *wings* moderately long and slightly rounded; *tail* rounded, the feathers broad; *tarsi* partially clothed; *feet* small; *hind toe* and *nail* shorter than the middle toe and nail.

243. *SCHISTES GEOFFROYI* . . . . . Vol. IV. Pl. 218.  
*Schistes Geoffroyi*, Reichenb. Aufz. der Col. p. 13.  
*Petasophora Geoffroyi*, Reichenb. Troch. Enum. p. 11.  
*Schistes Geoffroyi*, Cab. et Hein. Mus. Hein. Theil p. 27  
*Habitat*. The Andes of New Granada.

244. SCHISTES PERSONATA, *Gould* . . . . . Vol. IV. Pl. 219.  
*Schistes geoffroyii*, Selater in Proc. Zool. Soc., part xxviii. p. 70.  
*Habitat.* Ecuador.
245. SCHISTES ALBIGULARIS, *Gould* . . . . . Vol. IV. Pl. 220.  
*Schistes albigularis*, Reichenb. Aufz. der Col. p. 13.  
*Petasophora albigularis*, Id. Troch. Enum. p. 11.  
*Schistes albigularis*, Cab. et Hein. Mus. Hein. Theil iii. p. 27, note.  
*Habitat.* The western side of Pichincha, in Ecuador, at an elevation of 6000 feet.

Mr. Fraser, who procured this bird at Pallatanga, says, "Bill black; feet dark flesh-colour; gizzard contained insects; found in the underwood."

The members of the next genus, *Augastes*, have perhaps no direct alliance with the preceding; but as they are characterized by masked faces, and have buffy marks on the sides of the chest, they are as well placed here as elsewhere.

Both the *A. scutatus* and *A. Lumachellus* are very beautiful species, and have had the trivial name of Vizor-bearers applied to them, from the very peculiar manner in which their entire faces are covered with shining metallic feathers, giving the birds the appearance of being masked; the under-surface of their tails is also luminous, in which respect they present a similarity to the *Metalluræ*.

Genus AUGASTES, *Gould*.

(*Αὐγάζω*, illucesco, de *ἀγλή*, splendor.)

Generic characters.

*Male*.—Bill straight, longer than the head, and inclining to a wedge-shape at the tip; *head* round, the feathers not advancing upon the bill; *wings* rather long; *tail* moderately long and square, the feathers broad; *tarsi* clothed; *feet* small; *hind toe* very diminutive; *face* and tail luminous.

*Female*.—Destitute of luminous colouring.

246. AUGASTES SCUTATUS . . . . . Vol. IV. Pl. 221.  
*Trochilus venustus*, Licht. in Mus. of Berlin.  
*Augastes superbus*, Reichenb. Aufz. der Col. p. 13; Troch. Enum. p. 11; Bonap. Rev. et Mag. de Zool. 1854, p. 253.  
*Habitat.* Brazil.
247. AUGASTES LUMACHELLUS . . . . . Vol. IV. Pl. 222.  
*Lamprurus Lumachellus*, Reichenb. Aufz. der Col. p. 12.  
*Ramphomicron Lumachellus*, Id. Troch. Enum. p. 10.  
*Augastes lumachellus*, Bonap. Rev. et Mag. de Zool. 1854, p. 253; Cab. et Hein. Mus. Hein. Theil iii. p. 46.  
*Habitat.* Central and Northern Brazil.

One of those genera which give but little trouble to the ornithologist is the

Genus PETASOPHORA, *G. R. Gray*,

all the species having characters in common, while each has its own peculiar distinction either in colour or markings. The sexes are alike in colour, but the females are always much smaller than the males. This is strictly an Andean group, most of the species being found in those elevated regions from Mexico in the north to Bolivia in the south; one species, the *P. serrirostris*, inhabits Brazil.

248. PETASOPHORA SERRIROSTRIS . . . . . Vol. IV. Pl. 223.  
*Trochilus (Lophornis) petasophorus*, Tschudi, Consp. p. 37, No. 205.  
 ——— *chalcotis*, Licht. in Mus. of Berlin.  
*Petasophora chalcotis*, Reichenb. Aufz. der Col. p. 13; Id. Troch. Enum. p. 11.  
 ——— *serrirostris*, Id. ib. p. 13.  
 ——— *crispa*, Burm. Th. Bras. tom. ii. p. 335.  
 ——— *serrirostris*, Cab. et Hein. Mus. Hein. Theil iii. p. 25.  
*Petasophora Gouldi*, Bonap. (proposed for a smaller bird inhabiting Bahia).  
*Habitat.* Brazil, from Minas Geraes to Bahia.



249. PETASOPHORA ANAIS . . . . . Vol. IV. Pl. 224.  
*Petasophora anais*, Bonap. Rev. et Mag. de Zool. 1854, p. 250; Reichenb. Troch. Enum. p. 11; Cab. et Hein. Mus. Hein. Theil iii. p. 26.  
*Praxilla Anais*, Reichenb. Aufz. der Col. p. 13.  
*Habitat*. New Granada and Venezuela.

250. PETASOPHORA IOLATA, Gould . . . . . Vol. IV. Pl. 225.  
*?Trochilus (Coeligena) Anais*, Tschudi, Consp. p. 36, No. 201; Id. Faun. Peru. p. 244, No. 4.  
*Praxilla iolata*, Reichenb. Aufz. der Col. p. 13.  
*Petasophora iolata*, Reichenb. Troch. Enum. p. 11.  
*Petasophora rhodotis* "Gould," Saucerotte in Mus. Heinean.  
 ——— *iolata*, Cab. et Hein. Mus. Hein. Theil iii. p. 26.  
*Habitat*. Ecuador, Peru, and Bolivia.

251. PETASOPHORA CORUSCANS, Gould . . . . . Vol. IV. Pl. 226.  
*Habitat*. Unknown.

I have never seen a second example of this singular bird, which departs from the ordinary species, and assimilates somewhat to the *P. Delphinae*.

252. PETASOPHORA THALASSINA . . . . . Vol. IV. Pl. 227.  
*Trochilus Anais*, Swains. Birds of Brazil, pl. 75.  
*Ornismya Anais*, Less. Supp. des Ois.-mou. pl. 32.  
*Ramphodon Anais*, Less. Troch. p. 148, pl. 56?  
*Trochilus Anais*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 2?  
*Cynanthus thalassinus*, Jard. ib. p. 148.  
*Colibris thalassina*, Sclat. in Proc. of Zool. Soc., part. xxiv. p. 287.  
*Petasophora thalassina*, Bonap. Rev. et Mag. de Zool. 1854, p. 250; Cab. et Hein. Mus. Hein. Theil iii. p. 27;  
 Reichenb. Troch. Enum. p. 11.  
*Praxilla thalassina*, Reichenb. Aufz. der Col. p. 13.  
*Habitat*. Mexico and Guatemala.

"The barrancos of the Volcan de Fuego are favourite resorts of this species. A specimen obtained at Dueñas on the 15th of September was the only one I saw out on the llaño, as the bird is usually found in the dense forest." —*Salvin* in *Ibis*, vol. ii. p. 260.

253. PETASOPHORA CYANOTIS . . . . . Vol. IV. Pl. 228.  
*Ornismya Anais*, Less. Troch. p. 151, pl. 57?  
*Praxilla cyanotis*, Reichenb. Aufz. der Col. p. 13.  
*Petasophora cyanotus*, Reichenb. Troch. Enum. p. 11.  
 ——— *cyanotis*, Bonap. Rev. et Mag. de Zool. 1854, p. 251; Cab. et Hein. Mus. Hein. Theil iii. p. 26.  
*Habitat*. New Granada and Venezuela.

254. PETASOPHORA DELPHINÆ . . . . . Vol. IV. Pl. 229.  
*Telesiella Delphinae*, Reichenb. Aufz. der Col. p. 13.  
*Petasophora Delphinae*, Reichenb. Troch. Enum. p. 11.  
 ——— *delphina*, Bonap. Rev. et Mag. de Zool. 1854, p. 251.  
*Telesiella Delphinae*, Cab. et Hein. Mus. Hein. Theil iii. p. 27.  
*Habitat*. The Guianas, Trinidad, Venezuela, Guatemala, New Granada, and Ecuador.

"This Humming-Bird seems to have been quite unknown at Coban previously to the collection of my specimens. The first was shot by my collector, Cipriano Prado, among some *Salviae*, in one of the mountain hollows near Coban. *Salviae* being in flower in November, their blossoms are sought after by nearly every species of Humming-Bird near Coban, and this among the rest. It is rare even at Coban; and though much sought for by the Indian boys in consequence of my offers of reward, but few specimens were obtained.

"Three males to one female appears to be about the proportion of the sexes."—*Salvin* in *Ibis*, vol. ii. p. 261.

There is no one genus among the Trochilidæ that has more sadly puzzled me, and doubtless other ornithologists, than that containing the two species known under the specific names of *virescens* and *viridissimus* (*Chrysobronchus virescens* and *C. viridicaudus* of my Plates), no two persons agreeing as to the place they should fill in the family.

Dr. Cabanis, in his ‘Museum Heineanum,’ is of opinion that the generic name of *Polytmus*, proposed by Brisson in 1760, is the one under which they should be retained. Although I concur in this opinion, I cannot agree with him in placing them near to the genus *Glaucis*; and I may be open to criticism in ranging them here, but I really cannot find a better situation for them. I have stated that there are two species of this form, but I have some reason to believe there is a third, as I have a small specimen collected by M. Warszewicz on the River Magdalena, which may prove to be distinct; but until I have further evidence that such is the case, I decline to characterize it: independently of its smaller size, it has much more white on the tail than any other I have seen.

Genus *POLYTMUS*, *Briss.*

The *P. virescens* and *P. viridissimus* are the only species yet characterized of this genus. They are distinguished by the golden hues of their throats. A great similarity exists between the sexes; but the young of *P. virescens* have reddish-brown breasts, and are altogether different in colour from the adults.

255. *POLYTMUS VIRESCENS.*

*Chrysobronchus virescens* . . . . . Vol. IV. Pl. 230.  
*Polytmus thaumantias*, Cab. et Hein. Mus. Hein. Theil iii. p. 5.  
*Habitat.* Trinidad; Venezuela; and New Granada?

256. *POLYTMUS VIRIDISSIMUS.*

*Chrysobronchus viridicaudus* . . . . . Vol. IV. Pl. 231.  
*Ornismya viridis*, Less. Les Troch. p. 96, pl. 33.  
*Trochilus virescens*, Wied., Beitr. iv. p. 107.  
*Amazilia viridissima*, Bonap. Gen. Av. tom. i. p. 77, *Amazilia*, sp. 4.  
*Smaragdites viridissima*, Reichenb. Aufz. der Col. p. 7.  
*Chrysobronchus viridissimus*, Bonap. Rev. et Mag. de Zool. 1854, p. 252.  
*Chlorestes viridissimus*, Reichenb. Troch. Enum. p. 4, pl. 695. figs. 4547–48.  
*Thaumatias viridissimus*, Burm. Th. Bras. tom. ii. p. 344.  
*Thaumatias chrysurus*, Burm. ib. p. 345.  
*Trochilus viridicaudus*, Sauc. MSS.  
 ——— *prasinus*, Licht. in Mus. of Berlin.  
*Polytmus Theresiae*, Cab. et Hein. Mus. Hein. Theil iii. p. 5.  
*Habitat.* The banks of the Amazon, from Para to the confines of Peru. I have also received specimens from Demerara.

I have before stated that it would be impossible to arrange the Humming-Birds on the score of affinity; and I repeat that the various genera are so widely different, and so many connecting forms are wanting, that it is quite out of the question to attempt their arrangement on this ground. It is of little importance, then, where we place the bird known under the name of *Patagona gigas* and distinguished from all others by its great size, its ample wings, its sombre colouring, and by the similarity in the plumage of the two sexes. At present the single species which has been characterized, and which ranges from Ecuador to the southern parts of Chili, where it is a migrant, is all that is known of this form; but I observe that the Chilian and Ecuadorian specimens differ considerably in size, the latter being the largest.

Genus *PATAGONA*, *G. R. Gray.*

257. *PATAGONA GIGAS.* . . . . Vol. IV. Pl. 232.

*Hypermetra gigas*, Cab. et Hein. Mus. Hein. Theil iii. p. 81.  
*Trochilus gigas*, Bridges, Proc. of Zool. Soc. part xi. p. 114; Darwin, Zool. of Beagle, part iii. Birds, p. 111.  
*Habitat.* Ecuador, Peru, Bolivia, and Chile.

“The American Aloe (*Agave Americana*) is the only plant this bird is ever seen feeding upon in Ecuador.”—*Jameson and Fraser* in *Ibis*, vol. i. p. 400.

“This species,” says Mr. Darwin, “is common in Central Chile. It is a large bird for the delicate family to which it belongs. At Valparaiso, in the year 1834, I saw several of these birds in the middle of August, and I was informed they had only lately arrived from the parched deserts of the north. Towards the middle of September (the vernal equinox) their numbers were greatly increased. They breed in Central Chile, and replace, as I have before said, the foregoing species” (*Eustephanus galeritus*), “which migrates southward for the same purpose. The

nest is deep in proportion to its width—externally three inches and a half deep, internal depth a little under one inch and three quarters, width within one inch and two-tenths ; mouth slightly contracted. Externally it is formed of fine fibrous grass woven together, and attached by one side, and bottom, to some thin upright twigs ; internally it is thickly lined with a felt, formed of the pappus of some composite flower. When on the wing, the appearance of this bird is singular. Like others of the genus, it moves from place to place with a rapidity which may be compared to that of *Syrphus* among Diptera, and *Sphinx* among Moths ; but whilst hovering over a flower, it flaps its wings with a very slow and powerful movement, totally different from that vibratory one, common to most of the species, which produces the humming noise. I never saw any other bird, where the force of its wings appeared (as in a butterfly) so powerful in proportion to the weight of its body. When hovering by a flower, its tail is constantly expanded and shut like a fan, the body being kept in a nearly vertical position. This action appears to steady and support the bird, between the slow movements of its wings. Although flying from flower to flower in search of food, its stomach generally contained abundant remains of insects, which I suspect are much more the object of its search than honey is. The note of this species, like that of nearly the whole family, is extremely shrill.”—*Darwin, Zoology of the Beagle*, part iii. *Birds*, p. 111.

“The *Troch. gigas* is found in all the central provinces of Chile ; it is seen about Valparaiso during the spring and summer months, feeding on the flowers of *Pourretia coarctata* and *Lobelia polyphylla* in preference to others. It generally builds its nest near a little rivulet, frequently on a solitary twig or branch over the water ; the nest is beautifully constructed, and is composed of moss and the down of a species of *Gnaphalium*. Eggs white ; iris dark brown. Catches flies.”—*Bridges in Proc. Zool. Soc.* part vi. p. 114.

The forms to which we now proceed are mostly of large size, have straight lengthened bills, and are very gorgeously coloured. These straight and prolonged bills are in unison with the flora with which they are associated, particularly such deep tubular flowers as those of the genera *Brugmansia*, *Lepageria*, *Nematanthus*, *Tacsonia*, *Alstræmeria*, *Dipladenia*, &c.

The first genus is that of *Docimastes*. Of this remarkable form, the single species known stands alone among Humming-Birds for the great length of its bill. Nature here appears to have carried the development of this organ to its maximum ; and how wonderfully is it adapted for exploring the lengthened tubular flowers from which the bird obtains its insect food !

Genus *DOCIMASTES*, *Gould*.

(Δοκιμάζω, exploro.)

Generic characters.

*Male*.—*Bill* of extraordinary length, exceeding that of the head and body, and inclining upwards ; *wings* long and pointed ; *tail* moderately long and forked ; *tarsi* short and partially clothed ; *feet* small ; *hind toe* shorter than the middle toe ; *face* and *gorget* dull ; *sides of the chest* luminous.

*Female*.—Unadorned.

258. *DOCIMASTES ENSIFERUS* . . . . . Vol. IV. Pl. 233.

*Docimastes Derbyanus*, Licht. in Mus. Berlin.

——— *ensifera*, Cab. et Hein. Mus. Hein. Theil iii. p. 77.

*Habitat*. Columbia and Ecuador.

Specimens from the neighbourhood of Bogota differ from those received from Quito in being of much smaller size ; but I consider these as mere races of one and the same species, for I can see no characters on which a specific distinction could be founded.

The next species is interesting for its great size, the elegance of its proportions, and the beauty and harmony of its colours. This new and extraordinary bird I have named *Eugenia Imperatrix* in honour of the Empress of the French.

Genus *EUGENIA*, *Gould*.

(*Eugenia*, nom. propr.)

Generic characters.

*Male*.—*Bill* straight or slightly inclining upwards, longer than the head ; *wings* long ; *primaries* rigid ; *tail* long



and forked, the feathers narrow and unyielding; *tarsi* partially clothed; *feet* small; *hind toe* long; *nail* moderate; *face* luminous.

*Female*.—Unadorned.

259. *EUGENIA IMPERATRIX* . . . . . Vol. IV. Pl. 234.  
*Habitat*. Ecuador.

“Professor Jameson’s specimens of this fine bird were obtained in the neighbourhood of Auca, on the road to Nanegal, at about 6000 or 7000 feet elevation. They were feeding on the *Alstrœmeriæ*, *Daturæ* not being found in that locality.”—*Jameson and Fraser* in *Ibis*, vol. i. p. 400.

The members of the genus *Helianthea*, distinguished by their star-like frontlets and luminous under-surfaces, appear to range next to the preceding. Three of them (namely, *H. typica*, *H. Bonapartei*, and *H. Eos*) are quite typical; but the *H. Lutetiæ* and *H. violifera* differ somewhat in their colouring, the lower part of the body of the two latter species not being luminous, while they assimilate in all other respects. Dr. Reichenbach’s separation of the *H. typica* and *H. Bonapartei* into a separate genus (*Hypochrysa*) cannot, in my opinion, for a moment be admitted.

#### Genus *HELIANTHEA*, *Gould*.

(“*Ἡλιος*, sol, et *ἄνθος*, flos.)

Generic characters.

*Male*.—*Bill* long, straight and cylindrical; *wings* moderately long and powerful; *tail* of medium size and slightly forked when closed; *tarsi* extremely short and clothed with feathers; *feet* very small; *hind toe* the shortest; *forehead* and *under-surface* luminous.

*Female*.—Destitute of luminous colouring.

The members of this genus frequent the Andes for at least eight degrees on each side of the equator.

260. *HELIANTHEA TYPICA* . . . . . Vol. IV. Pl. 235.  
*Trochilus porphyrogaster*, Licht. in Mus. of Berlin.  
*Habitat*. New Granada. Is exceedingly common in the neighbourhood of Bogota. A large race occurs near Pamplona.
261. *HELIANTHEA BONAPARTEI* . . . . . Vol. IV. Pl. 236.  
*Hypochrysa Bonaparti*, Reichenb. Aufz. der Col. p. 9; Id. Troch. Enum. p. 6, pl. 739. figs. 4683–84.  
*Trochilus chrysogaster*, Licht. in Mus. Berlin.  
*Habitat*. New Granada. Examples frequently occur in collections from Bogota.
262. *HELIANTHEA EOS*, *Gould* . . . . . Vol. IV. Pl. 237.  
*Habitat*. Paramos da los Conejos, near Merida in Columbia.
263. *HELIANTHEA LUTETIÆ* . . . . . Vol. IV. Pl. 238.  
*Habitat*. Popayan and Ecuador. Professor Jameson and Mr. Fraser state that “This bird is found in the valleys of Lloa and Pelogalli, but not nearer Quito.”—*Ibis*, vol. i. p. 400.
264. *HELIANTHEA VIOLIFERA*, *Gould* . . . . . Vol. IV. Pl. 239.  
*Habitat*. “In provinz Chulimani au Cordilera” in Bolivia (*Warszewicz*).

#### Genus *HELIOTRYPHA*, *Gould*.

(“*Ἡλιος*, sol, et *τρυφή*, luxuria.)

Generic characters.

*Male*.—*Bill* straight and of the same length as the head; *wings* rather long; *tail* long and forked; *tarsi* partially clothed; *feet* small; *hind toe* rather shorter than the middle one; *forehead* and *throat* luminous.

*Female*.—Destitute of luminous colouring on the throat.

The members of this genus, two in number, differ from those of *Helianthus* in the absence of any band of white on the chest and in having a lengthened and deeply-forked tail.

265. *HELIOTRYPHA PARZUDAKI* . . . . . Vol. IV. Pl. 240.  
*Ramphomicron dispar*, Reich. Troch. Enum. p. 10.

*Trochilus lasiopygus*, Licht. in Mus. Berlin.

*Heliotryphon Parzudakii*, Cab. et Hein. Mus. Hein. Theil iii. p. 74.

*Habitat.* New Granada; and Ecuador, where it is rare.

266. HELIOTRYPHA VIOLA, Gould . . . . . Vol. IV. Pl. 241.

*Heliangelus viola*, Gould.

*Parzudakia viola*, Reichenb. Aufz. der Col. p. 12.

*Ramphomicron viola*, Id. Troch. Enum. p. 10.

*Heliotryphon viola*, Cab. et Hein. Mus. Hein. Theil iii. p. 74.

*Habitat.* Ecuador.

#### Genus HELIANGELUS, Gould.

(Ἡλιος, sol, et ἄγγελος, angelus.)

Generic characters.

*Male*.—*Bill* straight, about the same length as the head, and cylindrical; *wings* somewhat powerful; *tail* rather round in form and of medium size; *feet* moderately strong; *hind toe* and *nail* the same length as the middle toe and nail; *gorget* luminous, bounded below by a crescent of white.

*Female*.—Destitute of luminous colouring.

This is perhaps a better-defined genus than any other of those into which the Andean groups of Humming-Birds have been divided. Its characteristics are a moderately long bill surmounted by a band of lustrous colour on the forehead, and a deep luminous gorget separated from the general colour of the body by a semicircular band of white. Like the *Heliantheæ* and *Heliotryphæ*, the species of this form range along the Andes on both sides of the equator.

267. HELIANGELUS CLARISSÆ . . . . . Vol. IV. Pl. 242.

*Trochilus Clarissa*, Reichenb. Troch. Enum. p. 10.

*Heliangelus Clarissæ*, Cab. et Hein. Mus. Hein. Theil iii. p. 75.

*Anactoria Libussa*, Reichenb. Aufz. der Col. p. 12; Id. Troch. Enum. p. 10.

*Habitat.* The high lands of New Granada. Plentiful in collections from Bogota.

268. HELIANGELUS STROPHIANUS, Gould . . . . . Vol. IV. Pl. 243.

*Trochilus Strophiana*, Reichenb. Troch. Enum. p. 10.

*Habitat.* Ecuador.

269. HELIANGELUS SPENCEI . . . . . Vol. IV. Pl. 244.

*Trochilus Spencei*, Reichenb. Troch. Enum. p. 10.

*Habitat.* The ranges of Sierra Nevada de Merida in New Granada.

270. HELIANGELUS AMETHYSTICOLLIS . . . . . Vol. IV. Pl. 245.

*Trochilus amethysticollis*, Reichenb. Troch. Enum. p. 10.

*Habitat.* Peru.

271. HELIANGELUS MAVORS, Gould . . . . . Vol. IV. Pl. 246.

*Trochilus Mavors*, Reichenb. Troch. Enum. p. 10.

*Habitat.* The Paramos of Portachuela and Zumbador in New Granada.

That almost *terra incognita*, so far at least as its zoological productions are concerned, the Andes of La Paz, has given us, through the researches of M. Warszewicz, one of the most distinct as well as one of the most beautiful forms yet discovered among the Trochilidæ. This remarkable bird is the type of my genus *Diphlogæna*, to which I have since added a second species under the name of *D. Aurora*, with a mark of reservation in case it may prove to be the female of *D. Iris*; for the present, however, I regard it as distinct.

#### Genus DIPHLOGÆNA, Gould.

(δι-, duplex, et φλόγαινος, flammeus.)

Generic characters.

*Male*.—*Bill* straight and longer than the head; *wings* very long and pointed; *tail* lengthened and deeply forked;

*tarsi* short and partially clothed; *feet* small; *hind toe* short; *nails* moderately long and straight; *crown* decorated with several luminous colours.

*Female*.—Unknown.

272. *DIPHLOGÆNA IRIS*, Gould . . . . . Vol. IV. Pl. 247.

*Habitat*. Andes of Bolivia, between Sorata and Illinani. The locality given me by M. Warszewicz is the province of Huancabamba au Cordilera Solaio, 9000 feet.

273. *DIPHLOGÆNA AURORA*, Gould . . . . . Vol. IV. Pl. 248.

*Hypochrysis Aurora*, Reichenb. Aufz. der Col. p. 9.

*Coeligena Warszewiczi*, Reichenb. Aufz. der Col. p. 23.

*Coeligena Warszewiczii*, Reichenb. Troch. Enum. p. 4, pl. 690. fig. 4526.

*Habitat*. Peru; locality the same as *D. Iris*.

Dr. Reichenbach's specific name of *Warszewiczi* must, I believe, give place to that of *Diphlogæna Aurora*, unless his name was proposed prior to the 12th of April, 1853, when I read my paper on this and other new species before the meeting of the Zoological Society of London, as reported in the 'Athenæum' of the 16th of the same month.

The form which appears to me to range next in point of affinity is that of *Clytolæma*. The two members of this genus, unlike their predecessors, which are from the Andes, are natives of the low countries,—one, the *C. rubinea*, being found in Brazil, and, so far as we yet know, confined to the most eastern parts of that country; the other, the beautiful *C. aurescens*, is an inhabitant of the forests of the upper part of the Rivers Madeira and Negro.

#### Genus CLYTOLÆMA, Gould.

(Κλυτὸς, celebris, et λαμὸς, guttur.)

Generic characters.

*Male*.—*Bill* straight and rather longer than the head; *wings* moderately long and pointed; *tail* rather short, and very slightly forked; *tarsi* partially clothed; *feet* strong; *hind toe* and *nail* shorter than the fore toes and nails; *crown* and *gorget* luminous.

*Female*.—Destitute of any fine colour.

274. *CLYTOLÆMA RUBINEA* . . . . . Vol. IV. Pl. 249.

*Trochilus ruficaudatus*, Vieill. Nouv. Dict. d'Hist. Nat. tom. vii. p. 370, tom. xxiii. p. 429.

*Cynanthus rubineus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 146.

*Heliodoxa rubinea*, Reichenb. Troch. Enum. p. 9, pl. 744. figs. 4706–9.

*Calothorax rubinea*, Burm. Th. Bras. ii. p. 340.

*Habitat*. The eastern portions of Brazil; common at Rio de Janeiro.

275. *CLYTOLÆMA ? AURESCENS*, Gould . . . . . Vol. IV. Pl. 250.

*Habitat*. The forests bordering the Rivers Madeira, Upper Amazon, and Negro.

By some Trochilidists it may be thought that this species should form the type of a distinct genus; but after a careful comparison I believe that I have placed it in its right situation; at the same time I admit that there is some little doubt on the subject.

I next proceed to a group of birds of considerable size, with lengthened straight bills, and the plumage and markings of which render them very conspicuous—the prevailing colours being black and white, relieved by blue and other tints on the crown; they have small and very delicate feet, the colours of which are either rosy or white. I consider them to constitute a very distinct section of the Trochilidæ, and I have much pleasure in adopting for them the generic appellation of *Bourcieria* proposed by the late Prince Charles Bonaparte. All the known species are from the Andes, over which they are spread from the southern part of Peru to the northern part of New Granada.

#### Genus BOURCIERIA, Bonap.

As a typical example of the form, I commence with—

276. *BOURCIERIA TORQUATA* . . . . . Vol. IV. Pl. 251.

*Homophania torquata*, Cab. et Hein. Mus. Hein. Theil iii. p. 79.

*Habitat*. Columbia. Common in the temperate regions round Bogota.



277. BOURCIERIA FULGIDIGULA, *Gould* . . . . . Vol. IV. Pl. 252.  
*Homophania fulgidigula*, Cab. et Hein. Mus. Hein. Theil iii. p. 79, note.  
*Habitat.* Ecuador.
278. BOURCIERIA INSECTIVORA.  
*Trochilus (Lampornis) insectivorus*, Tschudi, Consp. p. 38, No. 211; Id. Faun. Per. p. 248, t. 28. f. 1.  
*Habitat.* Peru.
- I observe that M. Cabanis has placed the *T. insectivorus* of Tschudi among the synonyms of *B. torquata*; but, having had Tschudi's type specimen sent to me from Neuchatel, I am not satisfied as to its identity with that species. The specimen referred to seems to me to be the young of some bird of which we have not yet seen the adult. I therefore retain the name in my list; but of course do not figure it. It appears to me to offer an alliance to the *B. Conradi*.
279. BOURCIERIA CONRADI . . . . . Vol. IV. Pl. 253.  
*Helianthea Conradi*, Cab. et Hein. Mus. Hein. Theil iii. p. 80, note.  
*Habitat.* Pamplona in New Granada.
280. BOURCIERIA INCA, *Gould* . . . . . Vol. IV. Pl. 254.  
*Homophania Inca*, Cab. et Hein. Mus. Hein. Theil iii. p. 79.  
*Habitat.* Province of Coroico in Bolivia; 6000 or 8000 feet (*Warszewicz*).

Genus LAMPROPYGIA, *Reichenb.*

The members of this genus (all figured in the work under the generic appellation of *Cœligena*) bear a general resemblance to the last as regards their size and the lengthened and straight form of their bills; but their style of colouring is very different, and, however much some naturalists may dissent from the idea of colour being regarded as a generic character, I do think that it is of no little importance in this group of birds; for I find that every distinct section or genus is distinguished by some peculiar style of plumage and colouring common to all the species of which it is composed, and not found in the others. Thus the members of the present genus all bear a plumage of a rather dull or sombre character with the exception of the lower part of the back, where it is luminous; but, as is the case with the *Aglæactines*, this luminous colouring is only to be seen when viewed from behind. All the known species are found among the Andes, both on the northern and southern sides of the equator.

281. LAMPROPYGIA CÆLIGENA.  
*Cœligena typica* . . . . . Vol. IV. Pl. 255.  
*Lampornis cœligena*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 156.  
*Cœligena typica*, Reichenb. Troch. Enum. p. 3, pl. 686. fig. 4515.  
*Lampropygia cœligena*, Cab. et Hein. Mus. Hein. Theil iii. p. 78.  
*Habitat.* New Granada.

In my account of this species, which is common in the neighbourhood of Bogota, I stated that the Bolivian birds which appeared to be identical with it are much larger in size and darker in colour, and that I thought it probable that they would prove to be distinct and undescribed; I still entertain the same opinion. I therefore take this opportunity of assigning to this southern representative a specific appellation, but do not consider it necessary to give a figure of it.

282. LAMPROPYGIA BOLIVIANA, *Gould*.  
*Habitat.* Bolivia.

This bird bears a general resemblance to the *L. cœligena*, but differs in being of a much darker colour on the head and neck, and in having the tail dark olive-brown washed with bronze in lieu of light bronzy-brown; the lower part of the back also is more richly coloured, the crescentic markings of green showing still greater lustre when viewed from behind.

Total length  $5\frac{1}{2}$  inches; bill  $1\frac{1}{4}$ ; wing  $3\frac{1}{4}$ ; tail  $2\frac{1}{8}$ ; tarsi  $\frac{1}{4}$ .

283. LAMPROPYGIA PURPUREA.  
*Cœligena purpurea*, *Gould* . . . . . Vol. IV. Pl. 256.  
*Cœligena* ———, Bonap. Consp. Gen. Av. tom. i. p. 73, *Cœligena*, sp. 2.

*Coeligena purpurea*, Reichenb. Troch. Enum. p. 3, pl. 753. figs 4727–28.

*Lampropygia purpurea*, Cab. et Hein. Mus. Hein. Theil iii. p. 71, note.

*Habitat.* Popayan.

284. *LAMPROPYGIA PRUNELLEI*.

*Cœligena Prunelli* . . . . . Vol. IV. Pl. 257.

*Bourcieria Prunelli*, Reichenb. Troch. Enum. p. 7, pl. 750. figs. 4721–22.

*Homophania Prunelli*, Cab. et Hein. Mus. Hein. Theil iii. p. 79.

*Habitat.* Andes of New Granada. Common in collections from Bogota.

285. *LAMPROPYGIA WILSONI*.

*Cœligena Wilsoni* . . . . . Vol. IV. Pl. 258.

*Habitat.* Ecuador.

A group rather than a genus next claims our attention; for two or three very well-marked divisions occur among the birds I have figured under the generic name of *Helimaster*. Unlike the last, which are confined within certain limits, these birds are widely spread, some of them over Mexico and Central America, and others over Venezuela, and even further south than the latitude of Rio de Janeiro in Brazil.

The members of this section of the Trochilidæ are of rather large size, have long straight bills, lengthened wings, and a structure admirably adapted for aerial progression. The males are mostly clothed with fine colours on the crown and throat.

The species of the

Genus *HELIOMASTER*, *Bonap.*,

as now restricted, are at least five or six in number, and four of them are inhabitants of Central America or countries north of the Isthmus of Panama. Their short, nearly square tails, the outer feathers of which, together with their under tail-coverts, are spotted with white, render them very conspicuous.

286. *HELIOMASTER LONGIROSTRIS* . . . . . Vol. IV. Pl. 259.

*Selasphorus longirostris*, Reichenb., Troch. Enum. p. 11.

*Habitat.* Trinidad.

287. *HELIOMASTER STUARTÆ*, *Lawr.*

*Helimaster longirostris*, Sclat. in Proc. of Zool. Soc. part xxv. p. 16.

——— *Stuartæ*, Lawr. Ann. Lyc. Nat. Hist. in New York, April 9, 1860.

*Habitat.* New Granada; the neighbourhood of Bogota.

Mr. G. N. Lawrence, of New York, considers the bird from Bogota to be distinct from the *Helimaster longirostris* of Trinidad, and has assigned to it the distinctive appellation of *Stuartæ*, in honour of a most estimable lady, the wife of R. L. Stuart, Esq., of New York.

For my own part, I have always regarded the Bogota and Trinidad birds as one and the same; but Mr. Lawrence has ever maintained that they are distinct; and on the day when these remarks were written I received from him a copy of the first part of his paper entitled “Catalogue of a Collection of Birds made in New Granada, by James McLennan, Esq., of New York,” in which, referring to his *Helimaster Stuartæ*, he says:—“Since describing this species, I have had an opportunity of examining seven other specimens from Bogota. I find the bills of these to be quite as long as those of *H. longirostris*; but they are much stouter, and the base of the bill is very broad and bare of feathers, whereas in *longirostris* the bill is comparatively narrow at the base, and the feathers extend quite forward on the bill. These differences were constant in an equal number of each species.”

Whether the birds are really distinct or mere local varieties, time and the acquisition of a larger number of specimens must determine. I have in my own collection two specimens of another bird of this form, which bear a very general resemblance both in size and markings; but the crown, instead of being bluish green, is positive blue. So decided is this colour, that I have no hesitation in saying that, if so slight a difference is allowed to separate the Bogotan and Trinidadian birds, these also must be regarded as belonging to a distinct species, and the term *Sclateri*, which has been proposed by Dr. Cabanis, be used for them. I have two very fine males of this bird in fully adult plumage, killed by M. Warszewicz in Costa Rica; but in what particular locality, is unknown to me. Besides the Costa-Rican bird, I have another, still more different, from Southern Mexico, a most charming

specimen, killed by M. Montes de Oca. This beautiful bird also bears a general resemblance in colour and markings to those immediately preceding, but is distinguished from all of them by its delicate light-green metallic crown. For this new species I propose the name of *pallidiceps*.

If this little section be found to be composed of four distinct birds, the species will stand thus :—*H. longirostris* of Trinidad and the adjacent portions of the continent ; *H. Stuartæ* of Bogota ; *H. Sclateri* of Costa Rica ; and *H. pallidiceps* of Guatemala and Mexico.

288. HELIOMASTER SCLATERI, *Cabanis*.

*Heliomaster Sclateri*, Cab. et Hein. Mus. Hein. Theil iii. p. 54, March 30, 1860.

*Habitat*. Costa Rica.

289. HELIOMASTER PALLIDICEPS, *Gould*.

*Habitat*. Mexico and Guatemala.

Crown of the head shining pale green, much paler than in *H. longirostris* ; chin black ; gorget purplish red, separated from the ear-coverts by a distinct mark of white ; upper surface bronzy green ; two centre tail-feathers wholly green, the next on each side green tipped with black ; the three outer feathers green at the base, then black, and a spot of pure white at the tip, the white spot becoming less from the outer one, until on the third it is a mere speck ; wings purplish brown ; chest and centre of the abdomen grey ; flanks bronzy green ; under tail-coverts pale green, tipped with white.

Total length  $3\frac{3}{8}$  inches ; bill  $1\frac{5}{8}$  ; wing  $2\frac{3}{8}$  ; tail  $1\frac{1}{2}$  ; tarsi  $\frac{1}{4}$ .

“The white sides and the white spot on the back show very conspicuously as this bird rests on its perch.”—*Salvin in Ibis*, vol. ii. p. 264.

290. HELIOMASTER CONSTANTI . . . . . Vol. IV. Pl. 260.

*Habitat*. Guatemala, and Costa Rica.

291. HELIOMASTER LEOCADIÆ.

*Heliomaster pinicola*, *Gould* . . . . . Vol. IV. Pl. 261.

*Trochilus Leocadiæ*, Bourc. Ann. des Sci. Nat. de Lyon, tom. iv. 1852.

*Habitat*. Mexico.

Genus LEPIDOLARYNX, *Reichenb.*

This form, of which the single species known has received the above generic appellation, differs in many particulars from the preceding ; the bill is less elongated and not so straight, while the tail is decidedly forked ; independently of which, the gular mark is very different, the entire throat being luminous, while in all the species of *Heliomaster* the chin is black.

292. LEPIDOLARYNX MESOLEUCUS.

*Heliomaster mesoleucus* . . . . . Vol. IV. Pl. 262.

*Lepidolarynx mesoleucus*, Reichenb. Aufz. der Col. p. 13.

*Selasphorus (Lepidolarynx) mesoleucus*, Reichenb. Troch. Enum. p. 11.

*Ornithomyia mesoleuca*, Bonap. in Rev. et Mag. de Zool. 1854, p. 251.

*Heliomaster squamosus*, Cab. et Hein. Mus. Hein. Theil iii. p. 53.

*Calothorax mesoleucus*, Burm. Th. Bras. ii. p. 339, 1.

*Trochilus mystacinus*, Vieill. MSS.

*Habitat*. Brazil.

Genus CALLIPERIDIA, *Reichenb.*

The *Calliperidia Angelæ* offers a still further departure from the true *Heliomasters* ; for it has even a shorter bill than the last, while its tail is much more deeply forked. It is by far the finest species yet discovered. Its entire body is clothed in glittering colours, and the bird itself must be seen and examined to obtain an idea of its beauty. The female, on the other hand, has the under surface of the body smoky grey, differing in this respect from all the others.

293. CALLIPERIDIA ANGELE.

*Heliomaster Angelæ* . . . . . Vol. IV. Pl. 263.



*Calliperidia Angelae*, Reichenb. Aufz. der Col. p. 12.

*Calliphlox Angelae*, Reichenb. Troch. Enum. p. 10.

*Ornithomyia angela*, Bonap. Rev. et Mag. de Zool. 1854, p. 251.

*Habitat.* Buenos Ayres and Tucuman.

A single specimen of a Humming-Bird, somewhat allied to the last genus, was killed by M. Warszewicz on the sides of the Volcano of Chiriqui. It possesses so many remarkable characters that I was obliged, without a moment's hesitation, to assign to it a new generic appellation, that of *Oreopyra*. Unfortunately the specimen was so much injured by shot that I had much difficulty in giving a correct delineation of it.

Genus *OREOPYRA*, *Gould*.

(Ὀρος, mons, et πῦρ, ignis.).

Generic characters.

*Male*.—*Bill* longer than the head, straight, or very slightly arched; *wings* long and rigid; *tail* moderately long and forked; *tarsi* clothed; *feet* rather small; *gorget* snow-white.

294. *OREOPYRA LEUCASPIS*, *Gould* . . . . . Vol. IV. Pl. 264.

*Habitat.* Volcano of Chiriqui, 9000 to 10,000 feet (*Warszewicz*).

So different are the three birds found on the island of Juan Fernandez, that it would not involve a great stretch of impropriety to assign to each of them a separate generic appellation; I shall, however, retain them all under the name of *Eustephanus*. On an examination of the plates of the three species, it will be seen how remarkably they differ in size, colour, and markings. I consider it a very singular fact connected with the family of Humming-Birds, that three species should be found on an island so distant from the mainland, and that two of them should be confined to this isolated spot, surrounded as it is by the wide waters of the Pacific Ocean.

Genus *EUSTEPHANUS*, *Reichenb.*

295. *EUSTEPHANUS GALERITUS* . . . . . Vol. IV. Pl. 265.

*Sephanoïdes Kingi*, Gray, List of Gen. of Birds, p. 19.

*Eustephanus galeritus*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 11; Cab. et Hein. Mus. Hein. Theil iii. p. 76.

*Habitat.* Chile and Juan Fernandez.

“Found about Valparaiso in abundance in the months of August, September, and October.”—*Bridges* in *Proc. of Zool. Soc.* part xi. p. 115.

296. *EUSTEPHANUS STOKESI* . . . . . Vol. IV. Pl. 266.

*Thaumaste Stokesii*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 12.

*Eustephanus Stokesi*, Cab. et Hein. Mus. Hein. Theil iii. p. 75.

*Habitat.* Juan Fernandez.

297. *EUSTEPHANUS FERNANDENSIS* . . . . . Vol. IV. Pl. 267.

*Eustephanus Fernandensis*, Reichenb. Aufz. der Col. p. 14; Id. Troch. Enum. p. 11; Cab. et Hein. Mus. Hein. Theil iii. p. 76.

*Habitat.* Juan Fernandez.

The

Genus *PHÆOLÆMA*, *Reichenb.*,

is composed of two Andean species, distinguished by their sombre colouring; for although both have a luminous gular patch, and one of them a glittering mark on the centre of the crown, the brilliancy of these markings is not so great as usual, and their tails are coloured unlike those of any other group.

298. *PHÆOLÆMA RUBINOÏDES* . . . . . Vol. IV. Pl. 268.

*Heliodoea rubinoïdes*, Reichenb. Troch. Enum. p. 6, pl. 743. figs. 4704–5.

*Phaeolaema granadensis*, Cab. et Hein. Mus. Hein. Theil iii. p. 30, note.

*Habitat.* New Granada. Frequently sent to Europe from Bogotá.

299. *PHÆOLEMA ÆQUATORIALIS*, *Gould* . . . . . Vol. IV. Pl. 269.  
*Habitat.* Ecuador.

Genus *ERIOCNEMIS*, *Reichenb.*

The conspicuous tufts of feathers with which the legs of the *Eriocnemides* are clothed is a feature both novel and peculiar; and as it is not to be found in any other group of birds, they are thereby rendered especially singular. In some these powder-puff-like decorations are white, in others brown and white, and in one jet black. All the species are confined to that portion of the Andes which is bounded on the north by New Granada, and on the south by Bolivia.

It is not to be supposed that the minor distinctive characters which exist among the many species of this group should have passed unnoticed by ornithologists; on the contrary, they have attracted the notice of more than one writer, and the birds which were all formerly included in the genus *Eriopus* or *Eriocnemis* have received the sub-generic titles of *Engyete*, *Threptria*, *Phemonö*, *Aline*, *Luciani*, *Mosquera*, *Derbyomia*, &c.,—a tolerable division for the genus first established by me in 1847, under the name of *Eriopus*. I shall now give my own views on the subject, and point out those which I consider to be natural divisions. The first, then, is the well-known *E. cupreiventris*, with which I associate the *E. Isaacsoni*, the *E. Luciani* and the *E. Mosquera*. In all these the sexes are alike in colour. The next division comprises *E. vestita* and *E. nigriventis*, as they both have a brilliant patch of feathers on the throat, and the lower part of the back and the upper tail-coverts exceedingly luminous; and their females are somewhat different and less brilliant in colour. The *E. Godini* and *E. D'Orbigny* form another little section; but we really know so little respecting these species, that nothing can be said with certainty as to their females. The black-puffed *E. Derbyana* stands alone, and a rare and very beautiful bird it is. The *E. Aline* is distinguished from all the rest by the glittering green of its face and under-surface; it is by far the smallest species of the genus, while it has the largest puffs; and the female, although bearing a general resemblance to the male, is far less brilliant. The members of the next section are very sombre in their colouring, as will be seen on reference to the plates on which they are represented; they are *E. squamata*, *E. lugens*, and *E. Aureliæ*. Ornithologists may please themselves about adopting generic terms for these minute divisions; but, for myself, I have kept them all under that of *Eriocnemis*, and still feel inclined to do so. They all possess the important character of the puff leg, and they are remarkably alike as to the amount of this peculiar ornamentation.

300. *ERIOCNEMIS CUPREIVENTRIS* . . . . . Vol. IV. Pls. 270, 271.  
*Phemonö cupriventris*, Reichenb. Aufz. der Col. p. 9.  
*Eriocnemis cupriventris*, Reichenb. Troch. Enum. p. 6, pl. 729. figs. 4668-69.  
*Eriocnemis cupreiventris*, Cab. et Hein. Mus. Hein. Theil iii. p. 73.  
*Habitat.* The Andes in New Granada.

I now believe that the bird I have called *Eriocnemis simplex* is merely a dark variety of the *E. cupriventris*. Such varieties do now and then occur with other species of the family; the cause I cannot attempt to explain.

301. *ERIOCNEMIS ISAACSONI* . . . . . Vol. IV. Pl. 272.  
*Eriocnemis Isaacsoni*, Reichenb. Troch. Enum. p. 6, pl. 761. fig. 4700.  
*Habitat.* New Granada.

I have never seen any other than the type specimen of this species, which is now in the Derby Museum at Liverpool.

302. *ERIOCNEMIS LUCIANI* . . . . . Vol. IV. Pl. 273.  
*Phemonö Luciani*, Reichenb. Aufz. der Col. p. 9.  
*Eriocnemis Luciani*, Reichenb. Troch. Enum. p. 6, pl. 730. figs. 4671-72.  
*Habitat.* Ecuador; western side of Pichincha, at an elevation of 10,000 to 12,000 feet (*Jameson*).

303. *ERIOCNEMIS MOSQUERA* . . . . . Vol. IV. Pl. 274.  
*Threptria Mosquera*, Reichenb. Aufz. der Col. p. 9.  
*Eriocnemis Mosquera*, Reichenb. Troch. Enum. p. 6, pl. 728. figs. 4664-65.  
*Habitat.* The neighbourhood of Pasto in New Granada (*Delattre*).

304. *ERIOCNEMIS VESTITA* . . . . . Vol. IV. Pl. 275.  
*Eriocnemis vestita*, Cab. et Hein. Mus. Hein. Theil iii. p. 73.  
*Habitat.* The Andes of New Granada. Commonly sent from Bogota.

305. *ERIOCNEMIS NIGRIVESTIS* . . . . . Vol. IV. Pl. 276.  
*Habitat.* Ecuador, environs of Tumbaro (*Bourcier*).
306. *ERIOCNEMIS GODINI* . . . . . Vol. IV. Pl. 277.  
*Habitat.* Ecuador.
307. *ERIOCNEMIS D'ORBIGNYI* . . . . . Vol. IV. Pl. 278.  
*Habitat.* Peru or Bolivia.
308. *ERIOCNEMIS DERBIANA* . . . . . Vol. IV. Pl. 279.  
*Eriocnemis Derbyi*, Reichenb. Troch. Enum. p. 6, pl. 728. figs. 4666-67 and pl. 741. figs. 4698-99.  
*Habitat.* Volcano of Puracé in New Granada (*Delattre*).
309. *ERIOCNEMIS ALINÆ* . . . . . Vol. IV. Pl. 280.  
*Trochilus dasypus*, Licht. in Mus. of Berlin.  
*Eriocnemis Alinae*, Cab. et Hein. Mus. Hein. Theil iii. p. 73.  
*Habitat.* The hilly parts of New Granada.
310. *ERIOCNEMIS SQUAMATA*, *Gould* . . . . . Vol. IV. Pl. 281.  
*Habitat.* Ecuador.
311. *ERIOCNEMIS LUGENS*, *Gould* . . . . . Vol. IV. Pl. 282.  
*Threptia lugens*, Reichenb. Aufz. der Col. p. 9.  
*Eriocnemis lugens*, Reichenb. Troch. Enum. p. 6, pl. 740. figs. 4695-96.  
*Habitat.* Ecuador; western side of Pichincha (*Jameson*).

It is just possible that this may prove to be the female of *E. squamata*; for I have received many specimens from Professor Jameson with wholly white puffs, which is the characteristic of *E. lugens*; while from another locality one has been sent with partly white and partly red puffs: independently of the difference in the colouring of the puffs, the latter birds are larger than the former.

312. *ERIOCNEMIS AURELIÆ* . . . . . Vol. IV. Pl. 283.  
*Habitat.* New Granada and Ecuador.

Specimens from the Napo differ considerably from those received from Bogota,—a deep coppery hue pervading both the upper and under surface, whereas those parts are green in the Bogotan birds. I have seen specimens which I consider may be females or young of this species with wholly white puffs.

Proceeding from Mexico, southwards, through the high lands of the temperate regions of Guatemala, Costa Rica, and Veragua, we there find several species of the well-defined genus *Cyanomyia* which do not pass the Isthmus of Panama, while others occur in New Granada, Ecuador, and Peru. I have not yet seen any species of this form from Brazil or from any of the eastern portions of the South American continent. They are all very lovely birds, the colours with which they are adorned being blue, glittering green, and white, to which the red bills of one or two of them offer a pleasing contrast. The females, although generally resembling the males, are inferior to them in size and colouring. With these birds I commence the fifth volume.

#### Genus *CYANOMYIA*, *Bonap.*

313. *CYANOMYIA QUADRICOLOR* . . . . . Vol. V. Pl. 284.  
*Ornismya cyanocephala*, Less. Supp. des Ois.-mou. p. 132, pl. 17.  
*Trochilus verticalis*, Licht. Preis-Verz. Mexican. Thier. ges. v. Deppe & Schiede (Sept. 1830), Nos. 27, 28.  
*Cyanomyia verticalis*, Bonap. Rev. et Mag. de Zool. 1854, p. 254.  
*Agyrtria quadricolor*, Reichenb. Troch. Enum. p. 7, pl. 761. figs. 4758-59.  
*Uranomitra quadricolor*, Cab. et Hein. Mus. Hein. Theil iii. p. 41, note.  
*Habitat.* Northern Mexico.
314. *CYANOMYIA VIOLICEPS*, *Gould* . . . . . Vol. V. Pl. 285.  
*Uranomitra violiceps*, Cab. et Hein. Mus. Hein. Theil iii. p. 41.  
*Habitat.* Western Mexico.



## 315. CYANOMYIA CYANOCEPHALA . . . . . Vol. V. Pl. 286.

*Ornismya cyanocephala*, Less. Supp. des Ois.-mou. p. 134, pl. 18.

*Polytmus verticalis*, Gray & Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 86.

?*Uranomitra cyanocephala*, Reichenb. Aufz. der Col. p. 10.

*Cyanomyia cyanocephala*, Bonap. Rev. et Mag. de Zool. 1854, p. 254; Montes de Oca, Proc. Acad. Nat. Sci. Philad. 1860, p. 80.

*Agyrtria Faustine*, Reichenb. Troch. Enum. p. 7, pl. 760. figs. 4756-57.

*Agyrtria cyanocephala*, Reichenb. ib. p. 7, pl. 760. figs. 4754-55.

*Uranomitra Lessoni*, Cab. et Hein. Mus. Hein. Theil iii. p. 41.

*Habitat.* Southern Mexico.

"This Humming-Bird," says M. Montes de Oca, "is generally known by the name of *Chupa-mirto comun de pecho blanco*, or Common White-breasted Myrtle-sucker. It is found very abundantly and at all seasons of the year in the vicinity of Jalapa, Coatepec, Orizaba, and many other places in Mexico, where it remains all the year round, and I have often found its nest in the months of April and May.

"The nest of this species, like those of nearly all the Humming-Birds of this part of Mexico (Jalapa), is lined with the *tull* silky floss, and is most ingeniously covered on the outside with moss from the rocks. The eggs are generally two in number, but upon one occasion I found three in a nest."

In my account of this species, I have stated that it was found in Guatemala as well as Mexico; and although this may be the case, I believe the latter country to be its true habitat. Guatemalan differ from Mexican specimens in the colouring of the tail-feathers; in the latter they are olive-green, in the former rich bronzy-green. Under these circumstances I cannot regard them as identical, I must therefore give the Guatemalan bird a distinctive appellation:—

## 316. CYANOMYIA GUATEMALENSIS, Gould.

*Cyanomyia cyanocephala*, *Salvin* in *Ibis*, vol. ii. p. 39.

*Habitat.* Guatemala.

"Last year, in a cypress tree near the house at Dueñas, a pair of these birds built their nest. This year I found a branch of the same tree similarly tenanted, the new nest being only a few yards from the site of the old one. To obtain it, I was obliged to cut away the branch; and though, in falling, the nest was quite thrown on its side, the eggs, much to my surprise, did not fall out: this I afterwards found was owing to the lip of the nest turning inwards. Another pair commenced building near the house; and the male bird frequently came while I was preparing skins in the corridor, and took pieces of cotton almost from my hand. In the afternoon of August 14, my friend Mr. Wyld observing it making a descent upon some small object in his room, shut the window and called me. The intruder, who was wearied from fluttering against the window, suffered itself to be caught. In a very few moments its agitation ceased, and it seemed to be taking advantage of its comfortable place in my hand to rest from its fatigues, making no attempt to escape. Before letting it go, I procured a piece of sugar, and, after dipping it in water, put it to the tip of its bill. Almost immediately its long tongue was employed in sucking up the liquid. On liberating it, it flew to a tree close at hand, and seemed to take no further notice of its late captivity." —*Salvin* in *Ibis*, vol. ii. p. 39.

## 317. CYANOMYIA FRANCIE . . . . . Vol. V. Pl. 287.

*Agyrtria Franciae*, Reichenb. Troch. Enum. p. 7, pl. 761. figs. 4760-61.

*Trochilus hypoleucus*, Licht. in Mus. of Berlin.

*Uranomitra Franciae*, Cab. et Hein. Mus. Hein. Theil iii. p. 41.

*Habitat.* New Granada.

## 318. CYANOMYIA CYANICOLLIS, Gould . . . . . Vol. V. Pl. 288.

*Agyrtria cyanicollis*, Reichenb. Troch. Enum. p. 7.

*Uranomitra cyanicollis*, Cab. et Hein. Mus. Hein. Theil iii. p. 41, note.

*Habitat.* Peru

Nearly allied to *Cyanomyia* is the

Genus *HEMISTILBON*, Gould.

(*Ημι*-, semi, et *στίλβον*, micans.)

Generic characters.

*Male*.—*Bill* longer than the head and straight; *wings* moderately long and considerably curved; *tail* rather

short and truncate; *tarsi* clothed; *feet* rather small; *hind toe* shorter than the middle toe; *nails* short and curved.

Although I have placed this genus next to *Cyanomyia*, I consider that it has some relationship to the *Amaziliae*.

319. HEMISTILBON OCAI, *Gould*.

*Amazilia Ocai*, *Gould* . . . . . Vol. V. Pl. 289.

*Pyrrhophæna Ocai*, Cab. et Hein. Mus. Hein. Theil iii. p. 36, note.

*Habitat*. Mexico.

This beautiful species was discovered by M. Rafael Montes de Oca at Xalapa.

In this genus I provisionally place the *Trochilus Norrisi*, of which a single specimen exists in the Loddigesian collection, but unfortunately is so situated that I could not subject it to so careful an examination as I could have desired.

320. HEMISTILBON NORRISI.

*Trochilus Norrisii*, Bourc. Proc. of Zool. Soc. part xv. p. 47.

*Polytmus Norrisi*, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 71.

*Amazilia Norrisii*, Reichenb. Aufz. der Col. p. 10; Id. Troch. Enum. p. 8.

*Amazilia norrisi*, Bonap. Rev. et Mag. de Zool. 1854, p. 254.

*Pyrrhophæna Norrisi*, Cab. et Hein. Mus. Hein. Theil iii. p. 36, note.

*Habitat*. Bolanos in Central Mexico.

At present only one species is known of the

Genus LEUCIPPUS, *Bonap.*;

but I am inclined to believe that other birds of this form exist; indeed I have all but positive evidence that such is the case, in a specimen killed by M. Warszewicz in Peru, which for the present I decline describing, as it may possibly be only a female of some unknown species, the male of which will be differently coloured.

321. LEUCIPPUS CHIONOGASTER . . . . . Vol. V. Pl. 290.

*Leucippus chionogaster*, Cab. et Hein. Mus. Hein. Theil iii. p. 31.

*Habitat*. Peru and Bolivia.

Genus LEUCOCHLORIS, *Reichenb.*

This is another form of which a single species only has yet been discovered.

322. LEUCOCHLORIS ALBICOLLIS . . . . . Vol. V. Pl. 291.

*Trochilus vulgaris*, Wied, Beitr. iv. p. 72.

*Leucippus albicollis*, Reichenb. Troch. Enum. p. 8, pl. 782. figs. 4818-19.

*Agyrtria albicollis*, Cab. et Hein. Mus. Hein. Theil iii. p. 32.

*Thaumatias albicollis*, Burm. Th. Bras. tom. ii. p. 342.

*Habitat*. Brazil; and Tucuman, according to Dr. Burmeister.

This is a very pretty species, distinguished by its green and white plumage. The sexes are alike in external appearance.

The genus *Thaumatias*, as proposed by Bonaparte and adopted by me, comprises many species respecting which much confusion exists, especially with regard to the names applied to them by the older authors; some confusion also occurs with respect to the species I have called *Thaumatias Linnæi*, which I fear cannot be satisfactorily unravelled. If it should be decided that it is not the bird Bonaparte intended, I trust it will be allowed to stand as the "*Thaumatias Linnæi*, Gould, nec Bonap." The other synonyms may or may not be applicable to it, but they are given on the authority of M. Bourcier of Paris. This is another of those instances which unfortunately occur too frequently for the advantage of science; I mean the impossibility of determining the species intended in the curt descriptions left us by Gmelin and others of *Tobaci* or *Tobagensis*, *Ourissia*, cum multis aliis.

Genus THAUMATIAS, *Bonap.*

The species of this form are natives of Brazil, the banks of the Rivers Amazon and Napo, the Guianas, the

island of Trinidad, Venezuela, New Granada, and Central America. The sexes of each species are alike in colour. If any difference be observable, it is in the outer tail-feathers of the female being faintly tipped with olive-grey.

323. *THAUMATIAS CANDIDUS* . . . . . Vol. V. Pl. 292.  
*Agyrtria candida*, Cab. et Hein. Mus. Hein. Theil iii. p. 33, note.  
*Habitat.* Guatemala and Southern Mexico.

Mr. Salvin states that this species is "common on the Atlantic coast-region, about Yzabal, and thence one day's ride into the interior. Very abundant about Coban. Many species of Humming-Birds in Guatemala extend through a great range of temperature, the same species being frequently found both in the coast regions and also in the more elevated districts." Mr. Taylor saw very few examples of this bird in Honduras.

324. *THAUMATIAS CHIONOPECTUS*, *Gould* . . . . . Vol. V. Pl. 293.  
*Agyrtria niveipectus*, Cab. et Hein. Mus. Hein. Theil iii. p. 33, note.  
*Habitat.* Trinidad, Cayenne, and Guiana.

325. *THAUMATIAS LEUCOGASTER* . . . . . Vol. V. Pl. 294.  
*Cynanthus leucogaster*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 149.  
*Trochilus mellisugus*, Burm. Th. Bras. tom. ii. p. 343.  
*Agyrtria leucogastra*, Cab. et Hein. Mus. Hein. Theil iii. p. 34.  
*Trochilus Cleopatra*, Gould, MS.  
*Habitat.* North-eastern Brazil, Cayenne, and the Guianas.

326. *THAUMATIAS VIRIDICEPS*, *Gould* . . . . . Vol. V. Pl. 295.  
*Habitat.* Ecuador.

327. *THAUMATIAS MILLERI* . . . . . Vol. V. Pl. 296.  
*Agyrtria Milleri*, Cab. et Hein. Mus. Hein. Theil iii. p. 33, note.  
*Habitat.* New Granada. Common in the neighbourhood of Bogota.

328. *THAUMATIAS NITIDIFRONS*, *Gould* . . . . . Vol. V. Pl. 297.  
*Habitat.* Unknown: supposed to be Venezuela.

329. *THAUMATIAS CÆRULEICEPS*, *Gould*.  
*Thaumantias cæruleiceps*, Gould in Proc. Zool. Soc. part xxviii. p. 307.  
*Habitat.* New Granada. Received from Bogota.

330. *THAUMATIAS BREVIROSTRIS* . . . . . Vol. V. Pl. 298.  
*Trochilus versicolor*, "Licht.," Nordm. Erm. Reis. Atl. pp. 3, 27, t. 1. f. 1-3.  
*Hylocharis versicolor*, Gray & Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 45; Bonap. Consp. Gen. Av. tom. i. p. 74, *Hylocharis*, sp. 9.  
*Agyrtria versicolor*, Reichenb. Aufz. der Col. p. 10; Id. Troch. Enum. p. 7, pl. 759. figs. 4750-51.  
*Thaumantias versicolor*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.  
*Agyrtria brevirostris*, Cab. et Hein. Mus. Hein. Theil iii. p. 34.  
*Habitat.* South-eastern Brazil.

331. *THAUMATIAS AFFINIS*, *Gould* . . . . . Vol. V. Pl. 299.  
*Agyrtria affinis*, Cab. et Hein. Mus. Hein. Theil iii. p. 33, note.  
*Habitat.* Southern Brazil; the districts of Novo Friburgo and Minas Geraes.

332. *THAUMATIAS CHIONURUS*, *Gould* . . . . . Vol. V. Pl. 300.  
*Leucippus chionurus*, Reichenb. Aufz. der Col. p. 11; Id. Troch. Enum. p. 8, pl. 780. figs. 4813-15.  
*Thaumantias chionurus*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.  
*Agyrtria chionura*, Cab. et Hein. Mus. Hein. Theil iii. p. 32, note.  
*Habitat.* Costa Rica.

333. *THAUMATIAS ALBIVENTRIS* . . . . . Vol. V. Pl. 301.  
*Trochilus albiventris*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 141.  
*Agyrtria albiventris*, Cab. et Hein. Mus. Hein. Theil iii. p. 32.  
*Habitat.* Brazil, the neighbourhood of Sta. Catharina (*Bourcier*).

This, the largest species of the genus, has the centre of the abdomen and the under tail-coverts white.



334. *THAUMATIAS LINNÆI*, Bonap. Vol. V. Pl. 302.

*Trochilus viridissimus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 149.

*Trochilus viridipectus*, Sauc. in Mus. Berol. et Heinean.

*Saucerottia viridipectus*, Reichenb. Aufz. der Col. p. 7.

*Agyrtria Thaumantias*, Reichenb. Troch. Enum. p. 7, pl. 756. figs. 4738-39.

*Chlorestes viridipectus*, Reichenb. Troch. Enum. p. 4, pl. 702, figs. 4573-75.

*Hylocharis lactea*, fem., Reichenb. Troch. Enum. p. 8, pl. 772, fig. 4792.

*Coeligena Maugei*, fem. (!!!), Reichenb. in Mus. of Berlin (Cabanis).

*Agyrtria maculata*, Cab. et Hein. Mus. Hein. Theil iii. p. 33.

*Habitat.* Northern Brazil, Cayenne, Dutch and British Guiana, Trinidad, and Venezuela.

This bird is much smaller than the last, has less white on the abdomen, and the under tail-coverts tinged with grey.

I think it likely that pl. 62 of Lesson's 'Histoire Naturelle des Oiseaux-mouches' has reference to this species, and the text to the *T. albiventris*.

335. *THAUMATIAS FLUVIATILIS*, Gould.

*Habitat.* Banks of the River Napo.

In size this bird rather exceeds the last, and has a more than proportionately longer bill; the breast is glittering deep or grass green instead of golden green, and there is a narrow irregular streak of greyish white on the abdomen; but the great difference which distinguishes it from the *T. Linnæi* and the rest is the colouring of the under tail-coverts, the centres of which are dark brown margined with greyish white; the tail-feathers are short, and of a nearly uniform dull black.

Total length 4 inches, bill  $2\frac{3}{8}$ , wing 1, tail  $1\frac{1}{4}$ .

336. *THAUMATIAS APICALIS*, Gould.

*Habitat.* New Granada.

About the same size as the last, with an equally lengthened bill; the upper-surface golden green; the centre of the abdomen and under tail-coverts pure white; the four outer tail-feathers steel-black margined with pure white at the tip.

Total length  $3\frac{1}{2}$  inches, bill 1, wing  $2\frac{1}{2}$ , tail  $1\frac{1}{4}$ .

337. *THAUMATIAS MACULICAUDUS*, Gould.

*Habitat.* British Guiana.

This is a very little species, with a long thin bill; its breast is green, as the other's; the centre of its abdomen white; the under tail-coverts white, except in the centre, where they are dark brown; but the great difference is in the tail, which is exceedingly pretty, the two centre feathers being bronzy green, except at the extreme tip, which is greenish black, the next on each side bronze for half their length, then black; the three outer ones on each side bronzy green at their base, then broadly zoned with black, next to which they are green, and lastly white.

Total length  $3\frac{1}{2}$  inches, bill  $\frac{7}{8}$ , wing 2, tail  $1\frac{1}{4}$ .

A specimen of this bird was brought from Guiana by Sir Robert Schomburgk; and in all probability the species is an inhabitant of the interior.

The five preceding species are all very nearly alike, and form a minor section; they are confined to a comparatively limited area. The remaining members of the genus are more widely distributed, one of them inhabiting Guatemala and Costa Rica, and two or three Veragua, while the others frequent Venezuela, Trinidad, the Guianas, and Brazil; but as each of the species has its proper habitat indicated, it will be unnecessary to say more on the subject here. The females are very similar to the males in colour, except in the case of the rare species I have called *T. chionurus*, where the two sexes differ considerably, as may be seen on reference to the plate in which they are represented.

The group of Humming-Birds to which I next direct attention comprises the genera *Amazilia*, *Pyrrhophæna*, *Erythronota*, *Eupherusa*, *Saucerottia*, *Sapphironia*, *Hylocharis*, and others, ranging between the *Amaziliæ* and the little green species forming the genus *Chlorostilbon*. These birds are the least understood of the Trochilidæ, and are certainly the most difficult and perplexing to discriminate of the entire family. I will, however, do my best to unravel the confusion with which they are surrounded, and to place both the genera and species in as clear a light

as my experience enables me. To do this effectively it will be necessary to replace some of the species in the genera from which they have been separated, and to propose a further subdivision of the remainder. In so doing it must not be understood that I am desirous of increasing the number of genera; I merely wish to indicate by a distinctive appellation the sections into which the birds appear to be naturally divided. To particularize the provinces of South America over which the members of the various genera are distributed would be useless; for their dispersion may be said to be general, as they are found from Mexico to Bolivia on the western coast, and from Brazil to Venezuela on the eastern; few of the species, however, go very far either north or south, and still fewer are found in the West India Islands. The members of the genus *Amazilia*, as restricted, are all of somewhat large size, and are easily recognized, each of them having well-marked characters. There is but little difference in the outward appearance of the sexes. The equatorial regions of the Andes are their head-quarters; and it is there that we find the *A. pristina*, the *A. alticola*, the *A. Dumerili*, and the *A. leucophaea*. These four species, I consider, form a very natural section.

Genus *AMAZILIA*, *Reichenb.*

338. *AMAZILIA PRISTINA* . . . . . Vol. V. Pl. 303.  
*Phaethornis Amazili*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 152.  
*Pyrrhophæna Amazilia*, Cab. et Hein. Mus. Hein. Theil iii. p. 35.  
*Habitat.* The neighbourhood of Lima in Peru.
339. *AMAZILIA ALTICOLA*, *Gould* . . . . . Vol. V. Pl. 304.  
*Habitat.* The high lands of Central Peru; the precise locality uncertain.
340. *AMAZILIA DUMERILI* . . . . . Vol. V. Pl. 305.  
*Pyrrhophæna Dumerili*, Cab. et Hein. Mus. Hein. Theil iii. p. 36. note.  
*Habitat.* Ecuador, on the coast in the neighbourhood of Guayaquil, and on the Isle of Puna. Found also at Babahoyo by Mr. Fraser, who states that the bill is red with a black tip.
341. *AMAZILIA LEUCOPHÆA*, *Reichenb.* . . . . Vol. V. Pl. 306.  
*Pyrrhophæna leucophaea*, Cab. et Hein. Mus. Hein. Theil iii. p. 35.  
*Habitat.* Southern Peru. Collected in the vicinity of the Volcano of Arequipa by M. Warszewicz.

I retain Dr. Cabanis's generic term *Pyrrhophæna* for the ten succeeding species:—

Genus *PYRRHOPHÆNA*, *Cab.*

342. *PYRRHOPHÆNA CINNAMOMEA*.  
*Amazilia corallirostris* . . . . . Vol. V. Pl. 307.  
*Ornismya cinnamomea*, Less. Rev. Zool. 1842, p. 175.  
*Ornismya rutila*, Delatt. L'Echo du Monde Savant, No. 45, Juin 15, 1843, col. 1069.  
*Pyrrhophæna corallirostris*, Cab. et Hein. Mus. Hein. Theil iii. p. 35, note.  
*Habitat.* Central America.

"This species," says Mr. Salvin, "seems to be an inhabitant of the hot sea-board only, and does not extend its vertical range to a greater elevation than 2000 feet. In such regions on the Pacific coast it is very abundant, and is, in fact, the commonest of the family—in some parts almost swarming. In every village numbers may be seen flitting about the blossoms of the orange and lime trees. Its horizontal range appears to be extensive, and may be said to include the whole of the southern portion of Guatemala, from the confines of Chiapas to the State of San Salvador, and probably also embraces the Balsam Coast of that republic, as Captain Taylor obtained examples on Tigré Island in the Bay of Fonseca."—*Ibis*, vol. i. p. 130.

"It is common about San Gerónimo; but seems not to be found in the colder and more elevated portions of the republic, neither occurring at Dueñas nor Coban. A nest with two young and the hen bird was brought to me Dec. 6th; the young were half-grown, and would have flown in about ten days. My specimens show that, as far as the feathers are concerned, the sexes are alike. A difference, however, exists in the bill,—that of the male having much more of the brilliant colour from which the species takes its name, in the upper mandible. In the young bird the upper mandible is black."—*Ibis*, vol. ii. pp. 268, 269.

343. *PYRRHOPHÆNA YUCATANENSIS*.  
*Amazilia Yucatanensis* . . . . . Vol. V. Pl. 308.  
*Habitat.* Yucatan.

## 344. PYRRHOPHÆNA CERVINIVENTRIS, Gould.

*Amazilia cerviniventris*, Gould . . . . . Vol. V. Pl. 309.

*Pyrrhophæna cerviniventris*, Cab. et Hein. Mus. Hein. Theil iii. p. 36, note.

*Habitat*. Mexico. In the neighbourhood of Cordova, according to M. Sallé.

## 345. PYRRHOPHÆNA CASTANEIVENTRIS.

*Amazilia castaneiventris*, Gould . . . . . Vol. V. Pl. 310.

*Habitat*. New Granada.

## 346. PYRRHOPHÆNA RIEFFERI.

*Amazilia Riefferi* . . . . . Vol. V. Pl. 311.

*Ornismya amazili*, Delatt. Echo du Monde Savant, No. 45, Juin 15, 1843, col. 1069.

*Trochilus arsinoïdes*, Sauc. in Mus. of Berlin.

*Pyrrhophæna Riefferi*, Cab. et Hein. Mus. Hein. Theil iii. p. 36.

———— *Dubusi*, Cab. et Hein. ib. p. 36.

———— *suavis*, Cab. et Hein. ib. p. 36, note.

*Habitat*. Southern Mexico, Guatemala, and along the Andes to Ecuador.

Nearly thirty specimens are now before me from these various countries, among them M. Bourcier's type specimen of his *Trochilus Dubusi*, also specimens collected by Warszewicz in Costa Rica; and I see nothing to induce a belief that there is any specific difference between those found in Mexico, Guayaquil in Ecuador, or in any of the intermediate countries. I admit that differences occur both in size and in the fringing of the outer tail-feathers: generally speaking, they are darker in the Costa Rican and New Granadian specimens; but I have some quite as bronzy from those countries as the generality of specimens found in Honduras and Guatemala. These latter are the birds to which the term *Dubusi* has been applied.

## 347. PYRRHOPHÆNA BERYLLINA.

*Amazilia beryllina* . . . . . Vol. V. Pl. 312.

*Habitat*. Southern Mexico. M. Botta found it at Orizaba, and M. Sallé at Cordova.

## 348. PYRRHOPHÆNA DEVILLEI.

*Amazilia Devillei* . . . . . Vol. V. Pl. 313.

*Saucerottia maria*, Bonap. Rev. et Mag. de Zool. 1854, p. 255?

*Chlorestes Mariae*, Reichenb. Troch. Enum. p. 4, pl. 695. fig. 4549.

*Panychlora Mariae*, Cab. et Hein. Mus. Hein. Theil iii. p. 49, note.

*Amazilia Dumerili*, Salv. Ibis, vol. ii. p. 270.

*Habitat*. Guatemala.

Speaking of this species, which by some inadvertence he has called *A. Dumerili* instead of *A. Devillei*, Mr. Salvin says, "During the months of July, August, and September, one of its most favourite resorts was the western boundary of the Llaño of Dueñas, which, starting from the village and bounded to the eastward by the river Guacalate, extends, sweeping by the Volcan de Fuego, almost to the Hacienda of Capertillo, its southern extremity. Dispersed all over this plain is found, in groves, patches, and isolated trees, a Tree Convolvulus, bearing a white flower, and attaining an average height of about 25 or 30 feet. During the above months this elegant species might be seen in almost every tree, some feeding among the flowers, some settled quietly on a dead branch, uttering their low, plaintive, hardly to be called musical, yet certainly cheering song, others less peacefully occupied in a war of expulsion, driving out by vehement cries and more effectual blows the tenant of a tree, which in its turn wreaks vengeance on some weaker or unexpectant antagonist."—*Ibis*, vol. ii. p. 270.

## 349. PYRRHOPHÆNA VIRIDIGASTER.

*Amazilia viridigaster* . . . . . Vol. V. Pl. 314.

*Chlorestes viridiventris*, Reichenb. Troch. Enum. p. 4, pl. 699. figs. 4564–65.

*Hemithylaca viridiventris*, Cab. et Hein. Mus. Hein. Theil iii. p. 38.

*Habitat*. New Granada. Common in the neighbourhood of Bogota.

## 350. PYRRHOPHÆNA IODURA.

*Trochilus iodurus*, Sauc. in Mus. Hein.

*Saucerottia iodura*, Reichenb. Aufz. der Col. p. 8.



*Chlorestes iodurus*, Reichenb. Troch. Enum. p. 4, pl. 698. figs. 4560-61.  
*Hemithylaca iodura*, Cab. et Hein. Mus. Hein. Theil iii. p. 39.  
*Trochilus Aglaia*, Bourc. Ann. Soc. Sci. Phys. et Nat. Lyon, 1846, p. 329? Id. Rev. Zool. 1846, p. 318?  
*Polytmus Aglaia*, Gray & Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 73?  
*Amazilius aglaia*, Bonap. Consp. Gen. Av. tom. i. p. 71, *Amazilius*, sp. 11?  
*Saucerottia Aglaiae*, Reichenb. Aufz. der Col. p. 8?  
*Chlorestes Aglaiae*, Reichenb. Troch. Enum. p. 4?  
*Hemithylaca Aglaiae*, Cab. et Hein. Mus. Hein. Theil iii. p. 38, note?  
*Habitat.* New Granada?

The specimen named *iodura* in the Museum of M. Heine at Halberstadt is different from the bird so called in the Museum at Berlin. The former has a glittering crown and light-lilac shining tail-feathers; while the latter has a dull-coloured crown, and the tail so nearly resembling that of *P. viridigaster* that I have no doubt of its being a young bird or a female of that species. On the other hand, I think M. Heine's bird is a distinct species, and I have therefore retained it under the term *iodura*.

351. PYRRHOPHÆNA CYANURA. . . . . Vol. V. Pl. 315.  
*Amazilia cyanura*, Gould  
*Hemithylaca cyanura*, Cab. et Hein. Mus. Hein. p. 38, note.  
*Habitat.* Pacific side of Nicaragua; Realjo?

The *Erythronotæ* are nearly allied to the *Pyrrhophænæ*. As in that genus, the sexes are alike in their colouring. The species are much more circumscribed in their habitat, being almost confined to Venezuela and the countries immediately adjoining.

The oldest-known species, which I have called *antiqua*, appears to be subject to much variation in its colour and markings; but, as I stated in my account of that species, I have questioned the propriety of their separation until we are better acquainted with them.

GENUS ERYTHRONOTA, Gould.  
(Ἐρυθρότης, ruber, et νόστος, dorsum.)

Generic characters.

*Male*.—Bill longer than the head, nearly straight or very slightly curved; wings moderately long; tail rather short and slightly forked; tarsi clothed; hind toe rather shorter than the middle one; claws short; throat and chest lively green.  
*Female*.—Similar in colour.

352. ERYTHRONOTA ANTIQUA . . . . . Vol. V. Pl. 316.  
*Cynanthus erythronotus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 148.  
*Chlorestes erythronotus*, Reichenb. Troch. Enum. p. 4, pl. 799. figs. 4562-63.  
*Hemithylaca erythronota*, Cab. et Hein. Mus. Hein. Theil iii. p. 37.  
*Habitat.* Trinidad, Tobago, and Venezuela.

The birds from Tobago are very much larger than those from Trinidad; and some of the specimens from Venezuela have the under tail-coverts wholly chestnut; I should have considered this indicative of another species, had I not found a similar variation in specimens from Trinidad.

353. ERYTHRONOTA FELICIÆ . . . . . Vol. V. Pl. 317.  
*Habitat.* Venezuela.

The *O. Feliciæ* is admitted by the French Trochilidists to be distinct from *O. antiqua*, and as such I have kept it; at the same time it is extremely difficult to distinguish one from the other. In size they are as near alike as possible; but the former has a bluer tail, and the back and upper surface destitute of the fiery-red colouring observable in many specimens, but not in all, of the *O. antiqua*; the under tail-coverts, too, are frequently stained with violet.

I have a specimen of this bird, presented to me by M. Emile Parzudaki, of Paris, with the name of *Emile* attached. The bird was killed by him during his visit to South America.

354. ERYTHRONOTA EDWARDI . . . . . Vol. V. Pl. 318.  
*Chlorestes Edwardsii*, Reichenb. Troch. Enum. p. 4, pl. 698. figs. 4558-60.

*Hemithylaca Edwardi*, Cab. et Hein. Mus. Hein. Theil iii. p. 37, note.

*Habitat*. Panama, Costa Rica, and Veragua.

I have specimens of this bird killed by Mr. Bridges near David, at an elevation of from 8000 to 10,000 feet, according to the label attached.

355. ERYTHRONOTA NIVEIVENTRIS, *Gould* . . . . . Vol. V. Pl. 319.

*Chlorestes niveiventris*, Reichenb. Troch. Enum. p. 4, pl. 700. figs. 4566-67.

*Hemithylaca niveiventris*, Cab. et Hein. Mus. Hein. Theil iii. p. 37.

*Habitat*. Panama and Veragua.

356. ERYTHRONOTA ELEGANS, *Gould* . . . . . Vol. V. Pl. 320.

*Habitat*. Unknown.

This is a very elegant species, and quite distinct from every other known Humming-Bird. In its glittering light-green crown, throat, and chest it looks like a *Chlorostilbon*; but the form of its tail and some other characters ally it to the *Erythronotæ*, with which I have provisionally placed it.

The next natural section is that of *Saucerottia*, of which I am acquainted with three species distinguished from the *Erythronotæ* by their larger size, stouter bills, and by their more uniform dark-green colouring. All are confined to a comparatively limited area—namely, Costa Rica, Veragua, Panama, and the northern parts of New Granada.

#### Genus SAUCEROTTIA, *Bonap.*

357. SAUCEROTTIA TYPICA, *Bonap.*

*Erythronota Saucerottei* . . . . . Vol. V. Pl. 321.

*Habitat*. New Granada.

358. SAUCEROTTIA SOPHIÆ.

*Erythronota Sophiæ* . . . . . Vol. V. Pl. 322.

*Habitat*. Costa Rica, Veragua, and New Granada.

359. SAUCEROTTIA WARSZEWICZI.

*Hemithylaca Warszewiczi*, Cab. et Hein. Mus. Hein. Theil iii. p. 38.

*Habitat*. Banks of the River Magdalena.

As the *S. Sophiæ* differs from the *S. typica* in the richer blue colouring of its upper and under tail-coverts and tail, so does this species differ from the *S. Sophiæ* in having the tail and its coverts both above and beneath of a still richer and more violet blue. It is also of smaller size; and the green of its under surface is different from that of both, being purer and deeper. The examples in my collection were obtained by M. Warszewicz on the banks of the Magdalena.

The bird to which M. Bourcier has given the specific name of *cyanifrons* requires separation from the last three species, as much or more than they do from their predecessors the *Erythronotæ*. M. Cabanis's generic name of *Hemithylaca* having been applied to this group as a whole, subsequently to those of *Saucerottia* and *Erythronota*, I must either place his name in the rank of a synonym or adopt it for the present species, the only one of this particular form.

#### Genus HEMITHYLACA, *Cab.*

360. HEMITHYLACA CYANIFRONS.

*Saucerottia cyanifrons* . . . . . Vol. V. Pl. 323.

*Hemithylaca cyanifrons*, Cab. et Hein. Mus. Hein. Theil iii. p. 39.

*Habitat*. New Granada.

Somewhat allied to the genera *Hemithylaca* and *Erythronota* is the isolated form constituting my genus *Eupherusa*. The single species known is a native of Central America. Contrary to what occurs among the *Erythronotæ*, the sexes differ very considerably in their plumage—a fact of which I was not aware when my plate of the species was executed.

Genus EUPHERUSA, *Gould*.

(Εὖ, benè, feliciter ; et φέπουσα, gestans.)

*Male*.—*Bill* nearly straight and longer than the head ; *wings* rather long ; *tail* rounded ; *tarsi* clothed ; *feet* small ; *hind toe* rather shorter than the middle toe.

*Female*.—Unadorned.

361. EUPHERUSA EXIMIA . . . . . Vol. V. Pl. 324.

*Amazilia eximia*, Reichenb. Troch. Enum. p. 8, pl. 776. fig. 4802.

*Habitat*. Guatemala and Honduras ?

Mr. Salvin states that "This is one of the commonest Humming-Birds of Coban, being found everywhere near the city. The ratio of the males to the females is as ten to four."—*Ibis*, vol. ii. p. 271.

The following is a correct description of the female of this species :—

Throat and all the under surface grey ; sides of the neck and upper surface green ; primaries purplish brown ; secondaries deep buff, forming epaulets as in the male, but of less size.

The

Genus CHRYSURONIA, *Bonap.*,

is composed of six species, with pretty, golden tails. The females of most of them are strikingly different ; for, although they all have the tail similarly coloured, they are destitute of brilliancy on any part of the body. All are inhabitants of the Andes in New Granada, Ecuador, and Peru, with the exception of the *C. Eliciae*, which inhabits countries to the northward of Panama.

362. CHRYSURONIA ŒNONE . . . . . Vol. V. Pl. 325.

*Cyananthus Œnone*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 149.

*Chrysurisca Œnone*, Cab. et Hein. Mus. Hein. Theil iii. p. 42.

*Habitat*. Venezuela and New Granada.

I find no difference between the birds from Venezuela and those from the neighbourhood of Bogota, except that the latter have rather longer bills, and the tail-feathers lighter and inclined to green.

363. CHRYSURONIA JOSEPHINÆ . . . . . Vol. V. Pl. 326.

*Chrysurisca Josephinæ*, Cab. et Hein. Mus. Hein. Theil iii. p. 42, note.

*Habitat*. The upper parts of the River Amazon, where specimens were procured by Mr. Bates.

I have two specimens of a bird of this form in my collection, one of which, procured in Paris, is labelled "*O. neera*, Less.;" they differ from every other species I possess. They are much larger than *C. Josephinæ*, and their tails are rich fiery bronze ; their crowns greenish blue ; all the under surface golden green ; the under tail-coverts fiery bronze like the tail ; and the blue of the crown extends further down the neck. I therefore retain the name of *neera* for this bird. I have still another bird allied to *Josephinæ*, with a longer wing, a shorter tail, and a somewhat shorter bill ; the colour of the crown is violet or purplish-blue instead of greenish-blue, and the tail, instead of being rich fiery bronze, is light greenish-bronze. I cannot do otherwise than provisionally name this bird, and I therefore propose to call it *C. cæruleicapilla*.

364. CHRYSURONIA NEERA.

*Ornismya neera*, Less., Delatt. et Less. Rev. Zool. 1839, p. 18.

*Habitat*. Unknown.

365. CHRYSURONIA CÆRULEICAPILLA, *Gould*.

*Habitat*. Unknown.

366. CHRYSURONIA HUMBOLDTI . . . . . Vol. V. Pl. 327.

*Chrysurisca Humboldti*, Cab. et Hein. Mus. Hein. Theil iii. p. 42, note.

*Habitat*. The banks of the river Miva in the province of Esmeraldas in Ecuador.

367. CHRYSURONIA ELICIÆ . . . . . Vol. V. Pl. 328.

*Chrysurisca Eliciae*, Cab. et Hein. Mus. Hein. Theil iii. p. 42.

*Habitat*. Guatemala, Costa Rica, and Veragua.



368. *CHRYSURONIA CHRYSURA* . . . . . Vol. V. Pl. 329.  
*Phaethornis? chrysurus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 152.  
*Chrysurisca chrysura*, Cab. et Hein. Mus. Hein. Theil iii. p. 42, note.  
*Habitat.* Peru.

Rich and conspicuous blue is the prevailing tint in the genera *Eucephala* and *Hylocharis*, which may be considered as truly Brazilian, since most of the species are natives of that country, almost the only exception being the *E. Grayi*, which is found in the Andes. There is scarcely any section of the Trochilidæ less understood or more difficult to discriminate than the next six or eight species.

Genus EUCEPHALA, *Reichenb.*

369. *EUCEPHALA GRAYI* . . . . . Vol. V. Pl. 330.  
*Eucephala Grayi*, Cab. et Hein. Mus. Hein. Theil iii. p. 43.  
*Habitat.* Said to be Popayan in New Granada.  
This is the largest species of the genus, and a very rare bird.
370. *EUCEPHALA SMARAGDO-CÆRULEA*, *Gould* . . . . . Vol. V. Pl. 331.  
*Habitat.* Brazil, from Rio de Janeiro towards the interior.
371. *EUCEPHALA CHLOROCEPHALA* . . . . . Vol. V. Pl. 332.  
*Habitat.* The environs of Guaranda in Ecuador, according to M. Bourcier.
372. *EUCEPHALA CÆRULEO-LAVATA*, *Gould* . . . . . Vol. V. Pl. 333.  
*Habitat.* South-eastern Brazil.
373. *EUCEPHALA SCAPULATA*, *Gould*.  
*Habitat.* Supposed to be Cayenne.

Crown of the head, back of the neck, and lower part of the back very deep dull green; throat and chest glittering greenish blue, imperceptibly passing into the dull brownish black of the abdomen; under tail-coverts brown, with a wash of dull blue in the centre of each feather; a mark of blue on each side at the insertion of the wing, forming an indistinct band across the back; upper tail-coverts bronzy green; tail steel black, rather short for the size of the bird, and slightly forked; wings deep purplish brown; tarsi clothed with intermingled greyish-white and brown feathers; upper mandible black; basal half of the under mandible fleshy, the apical half black.

Total length  $3\frac{3}{4}$  inches, bill  $\frac{7}{8}$ , wing,  $2\frac{1}{16}$ , tail  $1\frac{3}{8}$ .

In the size of its body, it nearly equals the *Eucephala cæruleo-lavata*, but it differs from that and every other known species of this family of birds.

I have only seen a single example of this species.

374. *EUCEPHALA HYPOCYANEA*, *Gould* . . . . . Vol. V. Pl. 334.  
*Habitat.* Unknown; probably Brazil.
375. *EUCEPHALA CÆRULEA* . . . . . Vol. V. Pl. 335.  
*Chlorestes caeruleus*, Cab. et Hein. Mus. Hein. Theil iii. p. 46, note.  
*Trochilus Audeberti*, Wied, Beitr. iv. p. 67.  
*Cynanthus? cæruleus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 147.  
*Hylocharis Audeberti*, Burm. Th. Bras. tom. ii. p. 349.  
*Habitat.* Eastern and Northern Brazil (Chamicuros, *Hauxwell*), the Guianas, Venezuela, Trinidad, and Tobago.  
Specimens from all these localities are so much alike that it is impossible to consider them otherwise than as one and the same species; but I may remark that those from Venezuela have the blue mark on the chin much less apparent than those from Cayenne, Trinidad, and Eastern Brazil. My Chamicuros specimen also has this colour but faintly indicated, and the tail somewhat larger.
376. *EUCEPHALA CYANOGENYS*.  
*Trochilus cyanogenys*, Wied, Beitr. iv. p. 10; Jard. Nat. Lib. Humming-Birds, vol. ii. p. 89; Burm. Th. Bras. tom. ii. p. 350.  
*Ornismya Wiedii*, Less. Supp. Hist. Nat. des Ois.-mou. p. 150, pl. 26.  
*Cynanthus cyanogenys*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 148.

*Hylocharis cyanogenys*, Gray, Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 40.

*Saucerottia cyanogenys*, Bonap. Gen. Av. tom. i. p. 77, *Saucerottia*, sp. 3.

*Hylocharis wiedi*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.

*Chlorestes cyanogenys*, Reichenb. Aufz. der Col. p. 7; Id. Troch. Enum. p. 4, pl. 692. figs. 4536–37; Cab. et Hein. Mus. Hein. Theil iii. p. 46.

*Habitat.* Brazil.

At present the single example of this bird procured by Prince Maximilian of Wied is the only one that has been seen. This type specimen is now before me, and I cannot do otherwise than regard it as a distinct species. It is very closely allied to, but a smaller bird than, *E. cærulea*.

#### Genus PANTERPE, Cab.

This generic name has been proposed by M. Cabanis for the beautiful new bird discovered by Dr. Hoffmann in Costa Rica, of which I believe only a single example was obtained. Nothing is known with regard to the colouring of the sexes.

377. PANTERPE INSIGNIS, Cab. . . . . Vol. V. Pl. 336.  
*Habitat.* Costa Rica.

The member or members, as the case may be, of the

#### Genus JULIAMYIA, Bonap.,

stand quite alone and apart from all the other small Humming-Birds, and bear the same relationship to the *Eucephale* that the *Sphenoproctus Pampa* does to the *Campylopteri*. Some of the specimens of this form have brilliantly glittering crowns; in others this part of the head is dull-coloured; while the plumage of the body is alike in all.

These differences have sadly perplexed me for many years; but, after a very careful and minute examination of a great number of examples from various localities, I believe I shall be right in regarding the brilliantly coronetted bird as distinct from its dull-crowned ally, and in adopting Lesson's name of *Feliciania*, believing that his description of the bird he has so called has reference to it.

378. JULIAMYIA TYPICA . . . . . Vol. V. Pl. 337.  
*Coeligena Juliae*, Reichenb. Troch. Enum. p. 3, pl. 681. figs. 4494–95, and pl. 763. fig. 4767.  
*Damophila Juliae*, Cab. et Hein. Mus. Hein. Theil iii. p. 40.  
*Habitat.* New Granada.

379. JULIAMYIA FELICIANA.  
*Ornismya Felicianæ*, Less. Rev. Zool. 1844, p. 433.  
*Hylocharis Felicianæ*, Gray & Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 27.  
*Habitat.* Ecuador.

Mr. Fraser states that at Babahoyo this species is “not very common, and only found in the deep bush, where it feeds on the tops of good-sized trees,” and that in Esmeraldas it was “taken catching flies among the Cacao plantations. In October common everywhere; in December rare.” “Irides hazel; upper mandible black; lower red, with black tip.”—*Proc. of Zool. Soc.* 1860, pp. 283, 296.

The Mexican genus *Circe* comprehends, as far as our present knowledge extends, only two species. Although their tails are somewhat short, they are composed of broad and ample feathers, all of which are tipped with grey: in this respect they remind us of the *Chlorolampis Caniveti* and its allies.

#### Genus CIRCE, Gould.

(Κίρκη, Circe.)

Generic characters.

*Male*.—Bill rather longer than the head, slightly curved and tapering towards the tip; wings rather long; primaries rigid; tail rather short and slightly forked, the feathers broad; tarsi clothed; feet small; hind toe short; throat slightly luminous.

*Female*.—Very dull in colour.

The six middle tail-feathers of both species are edged with brown, as in *Caniveti*.

380. *CIRCE LATIROSTRIS* . . . . . Vol. V. Pl. 338.

*Ornismya Lessoni*, Delatt. Rev. Zool. 1839, p. 15 (female).

*Trochilus lazulus*, Licht. in Mus. of Berlin.

*Cyanophaia lazula*, Reichenb. Aufz. der Col. p. 10.

*Hylocharis lazula*, Reichenb. Troch. Enum. p. 8, pl. 770. figs. 4783-84.

——— *Doubledayi*, Cab. et Hein. Mus. Hein. Theil iii. p. 44.

*Habitat.* The table-lands of Mexico.

My late friend Dr. Saucerotte gave me the type specimen of his *Trochilus Schimperi* with the name attached, by which means I am able to state that it is identical with the present bird, and not with the *Trochilus lazulus* of Vieillot as supposed by Dr. Reichenbach (see his Aufz. der Col. p. 21).

381. *CIRCE DOUBLEDAYI* . . . . . Vol. V. Pl. 339.

*Habitat.* Mexico; locality Chimantla, according to Dr. Saucerotte.

Genus *PHŒOPTILA*, *Gould*.

(Φαιὸς, obscurus, et πτεῖλον, pluma.)

Generic characters.

*Male*.—*Bill* longer than the head, fleshy at the base, and slightly arched; *wings* of medium length; *tail* the same, and slightly forked; *feet* rather stout; *hind toe* and *nail* shorter than the middle toe and nail.

382. *PHŒOPTILA SORDIDA*, *Gould* . . . . . Vol. V. Pl. 340.

*Habitat.* Oaxaca in Mexico.

There is a specimen in the Loddigesian collection which appears to be distinct from this bird; without figuring I will give a description, and propose for it the name of *Phæoptila zonura*.

383. *PHŒOPTILA ZONURA*, *Gould*.

*Habitat.* Bolanos in Mexico.

This bird, which is rather smaller and more delicately formed than *P. obscura*, has all the upper surface dull bronzy green; a stripe of greyish white over each eye; ear-coverts dusky; wings purplish brown; two centre tail-feathers bronzy green; the remainder bronzy green, crossed near the extremity with a broad band of blackish brown, beyond which the tips are greyish brown; all the under surface grey.

The single species of the

Genus *DAMOPHILA*, *Reichenb.*,

stands quite alone, no second member of the form having yet been discovered. Its native country is the Andes of New Granada and Ecuador, from both of which localities specimens are now before me. Those procured by Mr. Fraser in Esmeraldas differ a little from the specimens commonly sent in collections from Bogota, in having the centre of the throat greyish brown instead of black, and the two centre tail-feathers reddish purple instead of bronzy green; however, they must not, I think, be regarded as other than local varieties. Mr. Fraser's specimens appear not to be fully adult.

384. *DAMOPHILA AMABILIS*, *Gould* . . . . . Vol. V. Pl. 341.

*Coeligena amabilis*, Reichenb. Troch. Enum. p. 3, pl. 681. figs. 4496-97.

*Damophila amabilis*, Cab. et Hein. Mus. Hein. Theil iii. p. 40.

*Habitat.* New Granada and Ecuador.

I am not quite certain that we are acquainted with the true female of this bird, but I believe my representation of that sex to be correct; if so, the sexes are very dissimilar in colouring, and in this respect are closely allied to the *Eucephalæ*.

Boié, one of the most philosophical of modern ornithologists, proposed the generic term of *Hylocharis* for the *Trochilus sapphirinus* of Gmelin; and I have much pleasure in adopting this name, as well as several others proposed by him. The

Genus *HYLOCHARIS*, *Boié*,

is composed of three species, all of which are natives of Brazil, to which country they are mainly confined. They



are all very pretty, if not showy, species; and one of them is among the oldest-known members of the entire family, as will be seen on reference to the synonyms; brilliant blue is the prevailing colour of the males, while the opposite sex is but plainly attired.

385. HYLOCHARIS SAPPHIRINA . . . . . Vol. V. Pl. 342.

*Trochilus sapphirinus* Vieill. Ency. Méth. Orn. part ii. p. 570; Licht. Dubl. p. 14.

——— *latirostris*, Wied, Beitr. iv. p. 64.

*Cynanthus sapphirinus*, Jard. Nat. Lib. Humming-Birds, vol. ii. p. 147.

*Hylocharis latirostris*, Reichenb. Aufz. der Col. p. 19.

*Sapphironia sapphirina*, Bonap. Rev. et Mag. de Zool. 1854, p. 256.

*Hylocharis sapphirina*, Reichenb. Troch. Enum. p. 7, pl. 769. figs. 4780–82; Burm. Th. Bras. tom. ii. p. 346; Cab. et Hein. Mus. Hein. Theil iii. p. 43.

*Habitat.* Brazil.

This species arrives in the neighbourhood of Rio de Janeiro in July, and departs again in November. I have also seen specimens from Bahia, Para, and other parts on the Lower Amazon.

386. HYLOCHARIS LACTEA . . . . . Vol. V. Pl. 343.

*Trochilus sapphirinus*, Wied, Beitr. iv. p. 61.

——— *lazulinus*, Licht. in Mus. of Berlin.

*Hylocharis lactea*, Cab. et Hein. Mus. Hein. Theil iii. p. 43, note; Reich. Troch. Enum. p. 8, pl. 773, figs. 4788–91.

*Habitat.* Eastern and Northern Brazil.

387. HYLOCHARIS CYANEA . . . . . Vol. V. Pl. 344.

*Trochilus azureus*, Licht. Dubl. p. 14.

*Hylocharis cyanea*, Reichenb. Aufz. der Col. p. 10; Id. Troch. Enum. p. 7, pl. 768. figs. 4777–79; Cab. et Hein. Mus. Hein. Theil iii. p. 44.

*Ornismya bicolor*, Less. Hist. Nat. des. Ois.-mou. p. 161, pl. 49, 50?? Id. Traité d'Orn. p. 280?? Id. Les Troch. p. 58, pl. 16??

*Habitat.* Eastern Brazil from Rio de Janeiro to Bahia, where it is stationary.

Next to *Hylocharis* I place the two species of the

Genus SAPPHIRONIA, Bonap.;

for although one of them has a glittering green breast, I consider it to be more nearly allied to that form than to the *Chlorostilboides* and their allies. They are very elegant in form; and I believe that the females of both species differ very considerably from the males. I consider this genus to be a very natural one; yet, strange to say, one of the species (*S. cæruleigularis*) has a blue breast, while the other is wholly green.

Both are natives of the Andes—one in Central America, the other in New Granada.

388. SAPPHIRONIA GOUDOTI . . . . . Vol. V. Pl. 345.

*Agyrtria Goudoti*, Reichenb. Troch. Enum. p. 7, pl. 763. figs. 4765–66.

*Lepidopyga Goudoti*, Cab. et Hein. Mus. Hein. Theil iii. p. 40, note.

*Habitat.* New Granada.

389. SAPPHIRONIA CÆRULEIGULARIS, Gould . . . . . Vol. V. Pl. 346.

*Agyrtria cæruleigularis*, Reichenb. Troch. Enum. p. 7, pl. 764. figs. 4768–69.

*Trochilus cyanomelas*, Licht. in Mus. of Berlin.

*Cyanophaia cærulescens*, “Lodd.,” Reichenb. in Mus. Heinean.

*Hylocharis cærulescens*, Reichenb. Troch. Enum. p. 8, pl. 770. fig. 4785.

*Lepidopyga cæruleigularis*, Cab. et Hein. Mus. Hein. Theil iii. p. 40.

*Habitat.* Costa Rica and Panama.

I now proceed to the genus

SPORADINUS, Bonap.,

the members of which are confined to the West India Islands. They are very elegant in form, and are of somewhat large size, when compared with those which precede and follow them. They have deeply-forked tails, and the under surfaces of the males are brilliantly coloured; the females, on the other hand, are very sombrely attired.

390. *SPORADINUS ELEGANS* . . . . . Vol. V. Pl. 347.  
*Trochilus Swainsoni*, Jard. Nat. Lib. Humm. Birds, vol. ii. p. 88.  
*Chlorestes elegans*, Reichenb. Troch. Enum. p. 4, pl. 704. f. 4587.  
*Sporadinus elegans*, Cab. et Hein. Mus. Hein. Theil iii. p. 25.  
*Habitat*. The Island of St. Domingo.

391. *SPORADINUS RICORDI* . . . . . Vol. V. Pl. 348.  
*Chlorestes Raimondii*, Reichenb. Troch. Enum. p. 4, pl. 704. figs. 4584-86.  
*Sporadinus Ricordi*, Cab. et Hein. Mus. Hein. Theil iii. p. 25, note.  
*Habitat*. The Island of Cuba.

392. *SPORADINUS?* *MAUGÆI* . . . . . Vol. V. Pl. 349.  
*Habitat*. Porto Rico.

This bird differs somewhat in form from the two preceding species, and it may be found necessary to institute a separate genus for its reception. It is a very rare bird, and the two specimens, male and female, in the collection at the Jardin des Plantes at Paris are the only ones I have ever seen.

The little glittering-green Humming-Birds forming the genera *Chlorolampis*, *Chloristilbon* and *Panychlora*, are very widely spread over the temperate and warmer parts of the South American continent, being found along the whole course of the great Andean range, from Mexico on the north to Bolivia on the south; they also inhabit Brazil, Cayenne, the Guianas, Trinidad, and Venezuela. The sexes differ very considerably in colour in nearly every species,—the males being clothed in a metallic covering, while that of the females is soft in texture and sombre in hue.

The members of the

#### Genus *CHLOROLAMPIS*, *Cab.*,

as restricted by me, are distinguished for their deeply forked tails, most of the feathers of which are singularly tipped with dull grey. They range over a great part of Mexico, Guatemala, Costa Rica, Veragua, and Panama, where they apparently terminate, as I have never received examples from any part southward of the isthmus. The finest species of the genus is the *C. auriceps*, a bird of very elegant form, and having a deeply forked tail; most nearly allied to this is the *C. Caniveti*: both these birds are from Mexico. Following these is the little bird I have named *C. Osberti*, after Mr. Osbert Salvin; a fourth, from Costa Rica, has been described by Dr. Cabanis as *C. Salvini*, after the same gentleman. Very considerable difference occurs in the sexes, but more in colour than in form; for the females have the tail forked like that of the males, but to a much less extent.

393. *CHLOROLAMPIS AURICEPS*.  
*Chlorostilbon auriceps*, *Gould* . . . . . Vol. V. Pl. 350.  
*Sporadinus auriceps*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.  
*Trochilus modestus*, Licht. in Mus. of Berlin?  
*Chlorolampis auriceps*, Cab. et Hein. Mus. Hein. Theil iii. p. 48, note.  
*Habitat*. Mexico: locality unknown.

394. *CHLOROLAMPIS CANIVETI*.  
*Chlorostilbon Caniveti* . . . . . Vol. V. Pl. 351.  
*Chlorestes Caniveti*, Reichenb. Troch. Enum. p. 4, pl. 703. figs. 4581-83.  
*Chlorolampis Caniveti*, Cab. et Hein. Mus. Hein. Theil iii. p. 47, note.  
*Habitat*. Southern Mexico and Guatemala?

395. *CHLOROLAMPIS OSBERTI*, *Gould*.  
*Chlorostilbon Osberti*, *Gould* . . . . . Vol. V. Pl. 352.  
*Habitat*. The neighbourhood of Dueñas in Guatemala.

396. *CHLOROLAMPIS SALVINI*, *Cab.*  
*Chlorolampis Salvini*, Cab. et Hein. Mus. Hein. Theil iii. p. 48.  
*Habitat*. Costa Rica, according to Dr. Cabanis.  
The *C. Salvini* is nearly allied to *C. Osberti* and to *C. Caniveti*, but I believe it to be distinct from both. The

freshly moulted adult males have their four central tail-feathers tipped with bronzy green; but this colour appears to fade upon exposure to light, leaving the tail nearly black. I believe this bird is also found at Panama.

Genus *CHLOROSTILBON*, *Gould*.

(Χλωρός, viridis, et στίλβω, corusco.)

Under this generic appellation, for a form of which I always intended the *C. prasinus* to be the type, I have figured the whole of the little green Humming-Birds; but I now see the necessity of subdividing them; I shall therefore restrict the term to the following species—*angustipennis*, *Haeberlini*, *Phaëthon*, *aureiventris*, *prasinus*, *Atala*, *brevicaudatus*, *Napensis*, *Peruanus*, *Daphne*, and *chrysogaster*, and adopt Dr. Cabanis's genus *Panychlora* for *Alicia*, *euchloris*, *Poortmanni*, and *stenura*.

397. *CHLOROSTILBON ANGUSTIPENNIS* . . . . . Vol. V. Pl. 353.  
*Habitat.* Panama and New Granada.

398. *CHLOROSTILBON HAEBERLINI*.  
*Chlorolampis chrysogaster*, Cab. et Hein. Mus. Hein. Theil iii. p. 47.  
*Trochilus Haeberlinii*, Licht. in Mus. of Berlin.  
*Chlorestes Haeberlinii*, Reichenb. Aufz. der Col. p. 7; Id. Troch. Enum. p. 4, pl. 703. figs. 4578–80.  
*Chlorolampis Haeberlini*, Cab. et Hein. Mus. Hein. Theil iii. p. 48, note.  
*Habitat.* Carthagera.

I have had the original of *C. Haeberlini* sent to me from Berlin, and I find it to be a very elegantly formed bird, nearly allied to, but quite distinct from, *C. angustipennis*. It differs in having the glittering green of the under surface washed with blue, a shorter wing, and a still more deeply forked tail, the feathers of which are steely-green, and not so dark as in that species. It is said to be from Carthagera.

399. *CHLOROSTILBON PHAËTHON* . . . . . Vol. V. Pl. 354.  
*Habitat.* Bolivia, Southern Brazil, and La Plata.

Since writing my account of this species, in which I expressed my belief that the *Ornismyia aureiventris* of D'Orbigny and Lafresnaye was identical with it, I have carefully re-examined my specimens from the above-named countries, together with an example collected by Mr. Bridges, and I am now inclined to believe the *O. aureiventris* to be distinct; but as it merely differs in being of smaller size in all its admeasurements, it will not be necessary for me to figure it.

400. *CHLOROSTILBON AUREIVENTRIS*.  
*Ornismyia aureiventris*, D'Orb. et Lafresn.  
*Hylocharis aureiventris*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.  
*Habitat.* Bolivia and Peru.

401. *CHLOROSTILBON PRASINUS* . . . . . Vol. V. Pl. 355.  
*Trochilus Pucherani*, Bourc. et Muls. Rev. Zool. 1848, tom. ii. p. 271.  
*Hylocharis pucherani*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.  
*Chlorestes Pucherani*, Reichenb. Aufz. der Col. p. 7; Id. Troch. Enum. p. 4, pl. 755. fig. 4736.  
*Trochilus nitidissimus*, Licht. in Mus. of Berlin.  
*Hylocharis prasina*, Burm. Th. Bras. tom. ii. p. 350.  
*Chlorestes nitidissimus*, Reichenb. Aufz. der Col. p. 7; Id. Troch. Enum. p. 4, pl. 693. figs. 4538–39.  
*Trochilus lamprus*, "Nat." in Mus. of Munich.  
*Chlorostilbon nitidissimus*, Cab. et Hein. Mus. Hein. Theil iii. p. 47.  
*Ornismyia Galathea*, Bourc. et Muls. in Mus. of Paris.  
*Trochilus viridissimus*, Linn. in Mus. of Berlin (young).

In my account of this species I stated that, owing to its being impossible to determine to what bird Lesson had given the name of *prasinus*, I should apply it to the one generally known by that term among collectors—the bird so common in the neighbourhood of Rio de Janeiro, Minas Geraes, &c. From Dr. Cabanis we learn that it has been named *Trochilus nitidissimus* by Lichtenstein in the Museum of Berlin, and *Trochilus lamprus*, Natt. in the Museum of Munich; but had either of these names been published to the world before Dr. Cabanis included it in his 'Museum Heineanum' under the name of *Chlorostilbon nitidissimus*? If not, and *prasinus* be rejected, that term must certainly give place to M. Bourcier's previously published one of *Pucherani*, which I find, from the type



specimen now before me, was given to a young male of this species. Refer to my account of this species, and of *C. Atala*.

402. *CHLOROSTILBON IGNEUS*, Gould.

*Habitat.* Supposed to be the neighbourhood of Para.

Crown of the head glittering orange; back of the neck and upper surface fiery orange, becoming more intense on the wing-coverts; throat and chest glittering bluish green, gradually passing into the fiery orange of the flanks and abdomen; under tail-coverts green, tinged with orange; wings purplish brown; tail purplish black; bill fleshy red at the base; gradually passing into the black of the tip.

This bird is about the same size as *C. prasinus*, but differs from that species in the fiery colouring above described, and in the tail being purplish- instead of steel-black.

This is the bird mentioned, in my account of *C. prasinus*, as having been sent to me by Mr. Reeves, of Rio de Janeiro. It is one of the most beautiful species of the family.

403. *CHLOROSTILBON ATALA*. . . . . Vol. V. Pl. 356.

*Chlorestes Atala*, Reichenb. Troch. Enum. p. 4, pl. 700. fig. 4568.

*Habitat.* The Island of Trinidad, and Venezuela.

I find that Venezuelan specimens differ a little from those of Trinidad, the green of the upper and under surface being more golden; still I have no doubt of their being identical.

404. *CHLOROSTILBON DAPHNE*.

*Trochilus Daphne*, Bourcier.

*Habitat.* Peru.

I consider this to be a distinct species: it is very nearly allied to the Cayenne bird *C. Atala* of this work; but it has a more square tail, with the green of the chest strongly tinged with blue. I have M. Bourcier's type, which is labelled 'Voyage de Castelnau, Pampas del Sacramento.'

405. *CHLOROSTILBON PERUANUS*, Gould.

*Habitat.* Peru.

Bill black; crown, throat, and all the under surface glittering orange-green; upper surface bronzy green; wings brown; tail purplish black.

Total length  $3\frac{1}{4}$  inches; bill  $\frac{3}{4}$ ; wing  $1\frac{3}{8}$ ; tail  $1\frac{1}{2}$ .

This, one of the black-billed species, has even a more rounded tail than *C. Daphne*, from which it differs in its larger size and in having a longer bill, and especially in the glittering orange-green colouring of its breast, which in *C. Daphne* is blue. The *C. chrysogaster* has a somewhat forked steely-black tail; in other respects the two birds are very similar.

406. *CHLOROSTILBON NAPENSIS*, Gould.

*Habitat.* The banks of the River Napo.

This species is very similar to, but smaller than *C. Daphne*, has a still shorter tail, and the blue of the breast not so extended, or confined to the throat.

407. *CHLOROSTILBON BREVICAUDATUS*, Gould.

*Habitat.* Cayenne.

This bird is very similar to the *C. Atala* of Trinidad, has the same glittering green-coloured breast, but has a short and more truncate-formed tail, more so than *C. Daphne* or *C. Napensis*.

408. *CHLOROSTILBON CHRYSOGASTER*.

*Trochilus chrysogaster*, Bourc. Ann. Soc. Sci. Phys. et Nat. Lyon, 1843, p. 40; Id. Rev. Zool. 1843, p. 101.

*Hylocharis chrysogaster*, Gray & Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 43; Bonap. Consp. Gen. Av. tom. i. p. 74, *Hylocharis*, sp. 2.

*Chlorestes chrysogaster*, Reichenb. Aufz. der Col. p. 7; Id. Troch. Enum. p. 4, pl. 693. figs. 4540-41.

——— *prasinus*, fæm. Id. ibid. pl. 755. fig. 4737?

*Trochilus puber*, Siebold in Mus. Monac. (Cabanis).

*Chlorolampis chrysogastra*, Cab. et Hein. Mus. Hein. Theil iii. p. 47.

*Chlorostilbon melanorhynchus*, Gould in Proc. of Zool. Soc. part xxviii p. 308?

*Chlorolampis smaragdina*, Cab. et Hein. Mus. Hein. Theil iii. p. 48?

*Chlorostilbon atala*, Sclat. "List of Birds collected by Mr. Fraser at Pallatanga," in Proc. Zool. Soc. part xxvii. p. 145; Id. "List of Birds collected by Mr. Fraser at Puellaro," in Proc. Zool. Soc. part xxviii. p. 94.

*Habitat.* New Granada and Ecuador.

In my description of *C. angustipennis* I stated that I considered the *Trochilus chrysogaster* of M. Bourcier to be identical with that species; but I have since more closely investigated the matter, and I now believe that this opinion was an erroneous one. I also believe that the *C. chrysogaster* and my *C. melanorhynchus* are one and the same bird; for I find little or no difference in the specimens from Panama, New Granada, and Ecuador. I further think it likely that the *C. smaragdina* of MM. Cabanis and Heine's 'Museum Heineanum' is also referable to it.

409. CHLOROSTILBON ASSIMILIS, Lawr.

*Chlorostilbon assimilis*, Lawr. Ann. of Lyc. of Nat. Hist. in New York, 1860, p. 292.

*Habitat.* Panama.

The following is Mr. Lawrence's description of his *C. assimilis*, and his remarks on the species:—"The entire upper plumage is of bronze or dull golden-green; tail dark steel-blue; wings brownish purple; under plumage brilliant green, golden on the abdomen, and on the throat of a bluish green; under tail-coverts grass-green; a small white spot on the pleura; tibial feathers brown; bill and feet black.

"Length 3 inches, wing  $1\frac{1}{6}$ , tail  $1\frac{1}{6}$ , bill  $\frac{9}{16}$ .

"This species is somewhat like *C. melanorhynchus*, Gould [*chrysogaster*], but is smaller, and the crown is uniform in colour with the back, not brilliant. The latter species is also more golden on the abdomen, and has the tail less forked, with the feathers narrower."

410. CHLOROSTILBON NITENS, Lawr.

*Chlorostilbon nitens*, Lawr. Ann. Lyc. Nat. Hist. New York, April 22, 1861.

"*Habitat.* Venezuela.

"Front and crown golden yellowish-green, very brilliant; back and wing-coverts shining bronzed green, lower part of back and upper tail-coverts shining grass-green; under plumage brilliant green, of a bluish shade on the throat, and golden on the abdomen; tail steel-blue and forked; wings brownish-purple; tarsi clothed with blackish feathers; under tail-coverts bright grass-green; upper mandible black, the under yellowish for two-thirds its length, with the end black; feet black.

"Length 3 inches, wing  $1\frac{2}{3}$ , tail  $1\frac{1}{3}$ , bill  $\frac{9}{16}$ .

"Allied to *C. chrysogaster*, but is smaller, and has a very brilliant crown."

Among the smallest of the Trochilidæ are the members of the form to which Dr. Cabanis has given the name of *Panychlora*. They are all inhabitants of New Granada and Venezuela, and are known by the specific names of *Alicia*, *euchloris*, *Poortmanni*, and *stenura*. They are distinguished by their dull-green colouring, the extreme shortness of their tails, and by the great difference in the colouring of the sexes.

GENUS PANYCHLORA, Cab.

The members of this genus form a very natural section among the little green Humming-Birds, very perceptible to those who have paid attention to this group of birds.

411. PANYCHLORA ALICIAE.

*Chlorostilbon Aliciae* . . . . . Vol. V. Pl. 357.

*Chlorestes Aliciae*, Reichenb. Troch. Enum. p. 4, pl. 754. figs. 4732-33.

*Trochilus crypturus*, Licht. in Mus. of Berlin.

*Panychlora Aliciae*, Cab. et Hein. Mus. Hein. p. 50, note.

——— *aurata*, Cab. et Hein. Mus. Hein. Theil iii. p. 50.

*Smaragdites maculicollis*, Reichenb. Aufz. der Col. p. 7.

*Chlorestes maculicollis*, Id. ibid. p. 24; Id. Troch. Enum. p. 4, pl. 694. figs. 4545-46; Cab. et Hein. Mus. Hein. Theil iii. p. 49, note.

*Habitat.* Venezuela and New Granada.

412. PANYCHLORA EUCHLORIS.

*Smaragdites euchloris*, Reichenb. Aufz. der Col. p. 7.

*Chlorestes euchloris*, Reichenb. ibid. p. 23; Id. Troch. Enum. p. 4, pl. 694. fig. 4544.

*Habitat.* New Granada?

There is a specimen in the Berlin Museum with a broken bill. In size it is rather larger than *Alicia*, the tail is more forked, and the two outer feathers more pointed; all the feathers have a purplish hue, as seen in *Poortmanni*, and the glittering feathers of the body are of a dull golden purplish green, as in that species.

413. *PANYCHLORA STENURA*, Cab.

*Panychlora stenura*, Cab. et Hein. Mus. Hein. Theil iii. p. 56, note.

*Chlorostilbon acuticaudus*, Gould in Proc. Zool. Soc. part xxviii. p. 308.

*Habitat.* Merida in New Granada.

This species is fully equal in size to the last, has a more lengthened bill, and the outer tail-feathers are much more pointed.

414. *PANYCHLORA POORTMANNI*.

*Chlorostilbon Poortmanni* . . . . . Vol. V. Pl. 358.

*Ornismya Esmeralda*, Less. in Mus. Heinean.

*Smaragdites Esmeralda*, Reich. Aufz. der Col. p. 7.

*Chlorostilbon Esmeralda*, Reichenb. Troch. Enum. p. 4, pl. 694. figs. 4542-43.

*Panychlora Poortmanni*, Cab. et Hein. Mus. Hein. Theil iii. p. 50.

*Habitat.* New Granada.

I shall close this account of the little green Humming-Birds with a description of the extraordinary species sent to me by Mr. Reeves of Rio de Janeiro, and which I have described, in the 'Proceedings of the Zoological Society,' as *Calliphlox? iridescent*. Its iridescent green colouring would indicate that it belongs to this section; while its comparatively small wings and short tail ally it to *Calliphlox*; but as it is not strictly referable to either genus, I propose for it a separate distinctive appellation, and provisionally place here the

Genus *SMARAGDOCHRYISIS*, Gould.

(Σμάραγδος, smaragdus, et χρῦσος, aurum.)

Generic characters.

*Male*.—*Bill* longer than the head, straight and slender; *wings* small, primaries narrow and rigid; *tail* of moderate size and deeply forked; *tarsi* clothed; *feet* small; *hind toe* and *nail* nearly as long as the middle toe and nail.

415. *SMARAGDOCHRYISIS IRIDESCENS*, Gould . . . . . Vol. V. Pl. 359.

*Habitat.* The virgin forests of the interior of Brazil.

Genus *PHLOGOPHILUS*, Gould.

(Φλόξ [φλογός], *nomen floræ*, et φίλος, amicus.)

Generic characters.

*Male*.—*Bill* straight; *wings* ample and rather rounded; *tarsi* long for a Humming-Bird, and bare; *tail* rather large and rounded; *hind toe* and *nail* shorter than the middle toe and nail.

The specimen from which the above characters were taken differs from every other known Humming-Bird in its more lengthened tarsi, and in the colouring of its rounded tail. The bird, which is immature, was received from the borders of the River Napo.

416. *PHLOGOPHILUS HEMILEUCURUS*, Gould . . . . . Vol. V. Pl. 360.

*Habitat.* The banks of the River Napo?

In placing this bird at the end of my Monograph of the Trochilidæ, I do not wish it to be understood that this is its proper situation. I cannot imagine what the adult will be like, and consequently cannot tell to which genus of the family it is allied; but I believe, to *Adelomyia*.

*Note*.—In the body of the work, Columbia has been given as the habitat of many of the species; but in this Introduction, Venezuela, New Granada, and Ecuador have been substituted, as the case required, for that more general term. A difference of opinion exists as to the correct spelling of New Granada,—some considering that it should be Grenada, and others Granáda; the latter has been adopted in this Introduction, while in the body of the work it is usually, if not always, spelt Grenada.



The Index to the specific names of Humming-Birds comprises every term of this kind with which I am acquainted. Among them are some which are not elsewhere mentioned in this Introduction; these are the specific appellations occurring in the works of the older and a few of the more modern authors, which I have found it quite impossible to ascertain to what birds they have been applied. It is but fair to state that the *Urolampira chloropogon* of Cabanis and Heine, and the *Chlorestes iolaimus* of Reichenbach, appear from the descriptions and figures to be good species; but, as I have not seen the typical examples, I am unable to speak positively respecting them; I shall, however, keep the subject of the Humming-Birds constantly before me, and, when desirable, place my remarks upon these, and any novelties that may occur, before the scientific world.

At page xvii I have stated that the Humming-Birds, like the Swifts, have ample wings and vast powers of flight. As this may appear contradictory to the remarks made on the wing-powers of *Selasphorus rufus* and *Trochilus Colubris* at page xiii, it will be as well to state, what I meant to convey is that their ample wings and bony structure is admirably adapted for sustaining them in the air for a considerable time, rather than for enabling them to take long flights from one country to another.

# EXPLANATION OF THE ABBREVIATIONS,

AND

## LIST OF THE AUTHORS AND WORKS REFERRED TO.

- Albin.—*Albin, Natural History of Birds.*  
 Aud. Birds of Am.—*Audubon, Birds of America.*  
 Aud. Orn. Bio.—*Audubon, Ornithological Biography.*  
 Aud. Syn. Birds of Am.—*Audubon, Synopsis of the Birds of America.*  
 Aud. et Vieill.—*Audebert et Vieillot, Oiseaux dorés, ou à reflets métalliques.*  
 Azara Voy. dans l'Amér. Mér. Sonn. edit.—*Azara, Voyage dans l'Amérique méridionale, Sonnini's edition.*  
 Banc. Hist. of Guiana.—*Bancroft, Natural History of Guiana.*  
 Bodd.—*Boddaert, Table de Planches enluminées d'Histoire Naturelle de M. D'Aubenton.*  
 Boié, in Oken's Isis.  
 Boiss. Mag. de Zool.—*Boissoneau, in Magasin de Zoologie.*  
 Boiss. Rev. Zool.—*Boissoneau, in Revue Zoologique.*  
 Bonap. Consp. Gen. Av.—*Bonaparte, Conspectus Generum Avium.*  
 Bonap. Consp. Troch. in Rev. et Mag. de Zool.—*Bonaparte, Conspectus Trochilorum, in Revue et Magasin de Zoologie.*  
 Bonap. Rev. et Mag. de Zool.—*Bonaparte, in Revue et Magasin de Zoologie.*  
 Bonap. Syn. Birds of U. States.—*Bonaparte, Synopsis of the Birds of the United States.*  
 Bonn. et Vieill.—*Bonnaterre and Vieillot, in Tableau Encyclopédique Méthodique, Part III. Ornithologie.*  
 Borowsk.—*Borowski, Vogel.*  
 Bourc. Ann. de la Soc. d'Agr. Hist. Nat. etc. de Lyon.—*Bourcier, in Annales de la Société d'Agriculture, Histoire Naturelle, etc. de Lyon.*  
 Bourc. Ann. Sci. Phys. et Nat. de Lyon.—*Bourcier, in Annales des Sciences Physiques et Naturelles de Lyon.*  
 Bourc. Compt. Rend. de l'Acad. des Sci.—*Bourcier, in Comptes Rendus de l'Académie des Sciences.*  
 Bourc. in Proc. Zool. Soc.—*Bourcier, in the Proceedings of the Zoological Society of London.*  
 Bourc. Rev. Zool.—*Bourcier, in Revue Zoologique.*  
 Bourc. et Muls.—*Bourcier and Mulsant, in Revue Zoologique.*  
 Bourc. et Muls. Ann. de la Soc. Sci. de Lyons.—*Bourcier and Mulsant, in Annales des Sciences Physiques et Naturelles de Lyon.*  
 Bourc. et Muls. Ann. de l'Acad. Sci. Bell. Lett. et Arts de Lyon.—*Bourcier and Mulsant, in Annales de l'Académie des Sciences, Belles-Lettres et Arts de Lyon.*  
 Bourc. et Muls. Ann. de la Soc. Linn. de Lyon.—*Bourcier and Mulsant, in Annales de la Société Linnéenne de Lyon.*  
 Brandt, Icon. Av. Ross.—*Brandt, Descriptiones et Icones Animalium Rossicorum, etc.*  
 Bridges, Proc. of Zool. Soc.—*Bridges, in the Proceedings of the Zoological Society of London.*  
 Briss. Orn.—*Brisson, Ornithologie.*  
 Brown. Nat. Hist. of Jam.—*Browne, The Civil and Natural History of Jamaica.*  
 Bryant, List of Birds seen at the Bahamas.  
 Buff. Hist. Nat. des Ois.—*Buffon, Histoire Naturelle des Oiseaux.*  
 Buff. Sonn. edit.—*Sonnini's edit. of Buffon's Histoire Naturelle des Oiseaux.*  
 Buff. Pl. Enl.—*Buffon's Planches Enluminées.*  
 Burm. Th. Bras.—*Burmeister, Systematische Uebersicht der Thiere Brasiliens.*  
 Cab. and Cab. et Hein.—*Dr. Cabanis and Ferdinand Heine, Museum Heineanum.*  
 Cab. or Cabanis in Rich. Schomb. Reisen in Brit. Guian.—*Cabanis, in Schomburgk's Reisen in British Guiana.*  
 Cabot in Proc. of Boston Soc. of Nat. Hist.—*Cabot, in the Proceedings of the Boston Society of Natural History.*  
 Cassin, Ill. Birds of California.—*Cassin, Illustrations of the Birds of California.*  
 Cuv. Règn. Anim.—*Cuvier, Règne Animal.*  
 Darwin, Zool. of Beagle.—*Darwin, The Zoology of the Voyage of H. M. S. Beagle, Part III. Birds, by John Gould.*  
 Da Silva, Maia Minerva Brasiliensis.  
 Delatt. Echo du Monde Savant.—*Delattre, in L'Echo du Monde Savant.*  
 Delatt. in Rev. Zool.—*Delattre, in Revue Zoologique.*  
 Delatt. et Bourc. Rev. Zool.—*Delattre and Bourcier, in Revue Zoologique.*  
 Delatt. et Less. Rev. Zool.—*Delattre and Lesson, in Revue Zoologique.*  
 De Longuem. Rev. Zool.—*De Longuemare, in Revue Zoologique.*  
 Dev. Rev. et Mag. de Zool.—*Denville, in Revue et Magasin de Zoologie.*  
 D'Orb. Voy. dans l'Amér. Méri. Ois.—*D'Orbigny, Voyage dans Amérique Méridionale: Oiseaux.*  
 D'Orb. et Lafres. Syn.—*D'Orbigny et Lafresnaye, Synopsis Avium.*  
 Drapiez, Dict. Class. d'Hist. Nat.—*Drapiez, in Le Dictionnaire Classique d'Histoire Naturelle.*  
 Dubus, Esquisses Orn.—*Dubus, Esquisses Ornithologiques.*  
 Dumont, Dict. Sci. Nat.—*Dumont de St. Croix, in Le Dictionnaire des Sciences Naturelles.*  
 Edwards, Birds, or Nat. Hist. of Birds.—*Edwards, Natural History of uncommon Birds.*  
 Edw. Glean. or Glean. of Nat. Hist.—*Edwards, Gleanings of Natural History.*  
 Ferm. Surinam.—*Fermin, Histoire Naturelle de Surinam.*  
 Fras. in Proc. Zool. Soc.—*Fraser, in the Proceedings of the Zoological Society of London.*  
 Gambel, Notes on Californian Birds.  
 Gambel, in Proc. of Acad. Sci. Philad.—*Gambel, in the Proceedings of the Academy of Sciences of Philadelphia.*  
 Gerv. Mag. de Zool.—*Gervais, in Le Magasin de Zoologie.*  
 Gmel. Linn. Syst. Nat.—*Gmelin's edition of Linnaeus's Systema Naturæ.*  
 Gosse, Birds of Jamaica.  
 Gosse, Ill. Birds of Jam.—*Gosse, Illustrations of the Birds of Jamaica.*  
 Gould, in Ann. and Mag. Nat. Hist.—*Gould, in the Annals and Magazine of Natural History.*  
 Gould, in Jard. Contr. to Orn.—*Gould, in Jardine's Contributions to Ornithology.*  
 Gould, Proc. Zool. Soc.—*Gould, in the Proceedings of the Zoological Society of London.*  
 Gould, in Rep. Brit. Assoc.—*Gould, in the Report of the British Association.*  
 Gould, Zool. of Beagle.—*Gould, in Zoology of the Voyage of H. M. S. Beagle, Part III. Birds.*  
 Gray, Cat. of Gen. and Sub-gen. of Birds in Brit. Mus.—*G. R. Gray, Catalogue of the Genera and Sub-genera of Birds contained in the British Museum.*  
 Gray, List of Gen. of Birds.—*G. R. Gray, List of the Genera of Birds.*  
 Gray and Mitch.—*Gray and Mitchell, The Genera of Birds.*  
 Gundl. in Cab. Journ. für Orn.—*Gundlach, in Cabanis's Journal für Ornithologie.*  
 Hill, Ann. and Mag. Nat. Hist.—*Hill, in the Annals and Magazine of Natural History.*  
 Jard. or Jardine in the Ann. and Mag. Nat. Hist.—*Jardine, in the Annals and Magazine of Natural History.*  
 Jard. Cont. to Orn.—*Jardine, Contributions to Ornithology.*

- Jard. Nat. Lib. Humm. Birds.—*Jardine, Naturalist's Library, Humming-Birds.*
- King in Proc. of Comm. of Sci. and Corr. of Zool. Soc.—*King, in the Proceedings of the Committee of Science and Correspondence of the Zoological Society of London.*
- Klein, Av. or Aves.—*Klein, Historie Avium Prodomus.*
- Lath. Gen. Hist.—*Latham, General History of Birds.*
- Lath. Gen. Syn.—*Latham, General Synopsis of Birds.*
- Lath. Ind. Orn.—*Latham, Index Ornithologicus.*
- Lawr. in Ann. Lyc. Nat. Hist. New York.—*Lawrence, in Annals of the Lyceum of Natural History in New York.*
- Lembeye, Aves de l'Isle de Cuba.
- Léry, Voyage au Brésil.
- Less. Ann. Sci. Nat.—*Lesson, in Annales des Sciences Naturelles.*
- Less. Col.—*Lesson, Histoire Naturelle des Colibris.*
- Less. Echo du Monde Savant.—*Lesson, in l'Echo du Monde Savant.*
- Less. Hist. Nat. des Col.—*Lesson, Histoire Naturelle des Colibris.*
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— Warszawiczi . . . . .	ib.
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Chrysuronina (Enone) . . . . .	ib.
— Josephinæ . . . . .	ib.
— Neera . . . . .	ib.
— cæruleicapilla . . . . .	ib.
— Humboldti . . . . .	ib.
— Eliciæ . . . . .	ib.
— chrysura . . . . .	cv
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— chlorocephala . . . . .	ib.
— cæruleo-lavata . . . . .	ib.
— scapulata . . . . .	ib.
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— cærulea . . . . .	ib.
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— Feliciæ . . . . .	ib.
Circe latirostris . . . . .	cvi
— Doubledayi . . . . .	ib.
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— zonura . . . . .	ib.
Damophila amabilis . . . . .	ib.
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— lactea . . . . .	ib.
— cyanea . . . . .	ib.
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— ? Maugæi . . . . .	ib.
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— Daphne . . . . .	ib.
— Peruanus . . . . .	ib.
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LIST OF SPECIFIC NAMES

OF

HUMMING-BIRDS.

[The following is an alphabetical list of all the specific names of Humming-Birds with which I am acquainted and the species to which they have reference ; both those appearing in my own work, and others which I have not been able to determine to what species they have been applied. Some of the latter have been assigned to manufactured specimens, and the descriptions of the others are frequently so curt and vague that they cannot be identified.]

Abeillei . . . . .	Myiabeillia typica.	Anna . . . . .	} Calypte Annæ.
abnormis, <i>Natt.</i> . . . .	Not identified.	Annæ . . . . .	
acuticaudus . . . . .	Panychlora stenura.	anthophila . . . . .	} Phaëthornis anthophilus.
Addæ . . . . .	Spathura rufocaligata.	anthophilus . . . . .	
Adela . . . . .	} Oreotrochilus Adelaë.	antiqua . . . . .	Erythronota antiqua.
Adelaë . . . . .		Antoniæ . . . . .	Threnetes Antoniaë.
Adolphi . . . . .	Pygmornis Adolphi.	apicalis . . . . .	Phaëthornis Guyi.
æneicauda . . . . .	} Metallura æneicauda.	— . . . . .	Thaumatias apicalis.
æneicaudus . . . . .		Aquila . . . . .	Eutoxeres Aquila.
æneocauda . . . . .	} Aglæactis Æquatorialis.	Arsennii . . . . .	Heliopædica melanotis.
Æquatorialis . . . . .		Arsinoë . . . . .	Pyrrhophæna beryllina.
— . . . . .	Campylopterus Æquatorialis.	arsinoides . . . . .	— Riefferi.
— . . . . .	Phaeolæma Æquatorialis.	Aspasie . . . . .	Pygmornis Aspasie.
affinis . . . . .	Thaumatias affinis.	assimilis . . . . .	Chlorostilbon assimilis.
— . . . . .	Glaucis affinis.	Atala . . . . .	— Atala.
— . . . . .	Phaëthornis superciliosa.	— . . . . .	— chrysogaster.
Aglaiaë . . . . .	Pyrrhophæna iodura.	Atalæ . . . . .	— Atala.
albicollis . . . . .	Leucochloris albicollis.	ater . . . . .	} Florisuga atra.
albigularis . . . . .	— albicollis.	atra . . . . .	
— . . . . .	Schistes albigularis.	atratus . . . . .	} Lampornis Mango.
albirostris . . . . .	Thaumatias leucogaster.	atricapillus . . . . .	
albiventris . . . . .	— albiventris.	atrigaster . . . . .	Eulampis holosericeus.
albocoronata . . . . .	Microchera albocoronata.	atrimentalis . . . . .	Pygmornis Amaura.
albus . . . . .	Lampornis Mango.	Audebertii . . . . .	Eucephala cærulea.
Alexandri . . . . .	Trochilus Alexandri.	Audenetii . . . . .	Polemistria chalybea.
Alice . . . . .	} Panychlora Aliciaë.	Augusta . . . . .	} Phaëthornis Augusti.
Aliciaë . . . . .		Augustæ . . . . .	
Alina . . . . .	} Eriocnemis Alinaë.	Augusti . . . . .	} Not determined.
Aline . . . . .		aurantias, <i>Gmel.</i> . . . .	
Aline . . . . .	Metallura tyrianthina.	aurata . . . . .	Panychlora Aliciaë.
Allardi . . . . .	Amazilia alticola.	auratus . . . . .	Eulampis jugularis.
alticola . . . . .	Damophila amabilis.	— . . . . .	Lophornis ornatus.
amabilis . . . . .	Lesbia Amaryllis.	aureiventris . . . . .	Chlorostilbon aureiventris.
Amaryllis . . . . .	Pygmornis amaura.	Aureliæ . . . . .	Eriocnemis Aureliæ.
amaura . . . . .	Amazilia Dumerili.	aureoviridis . . . . .	Lampornis viridis.
amazicula . . . . .	— pristina.	aurescens . . . . .	Clytolæma ? aurescens.
Amazili . . . . .	Pyrrhophæna Riefferi.	aureus, <i>Licht.</i> . . . .	— rubinea ?.
— . . . . .	Amazilia pristina.	auriceps . . . . .	Chlorolampis auriceps.
Amazilia . . . . .	— Dumerili.	auriculata . . . . .	} Heliothrix auriculata.
amazilicula . . . . .	Heliangelus amethysticollis.	auriculatus . . . . .	
amethysticollis . . . . .	} Calliphlox amethystina.	aurigaster . . . . .	Eulampis holosericeus.
amethystina . . . . .		— . . . . .	Helianthea Bonapartei.
amethystinus . . . . .	— amethystoides.	aurita . . . . .	Heliothrix aurita.
amethystoides . . . . .	Petasophora Anais.	— . . . . .	— auriculata.
Anais . . . . .	— cyanotis.	auritus . . . . .	Eulampis jugularis.
— . . . . .	— iolata.	— . . . . .	Heliothrix aurita.
— . . . . .	— thalassina.	Aurora . . . . .	Diphlogena Aurora.
Angela . . . . .	} Calliperidia Angelaë.	aurulenta . . . . .	} Lampornis aurulentus.
Angelaë . . . . .		aurulentus . . . . .	
angustipennis . . . . .	Chlorostilbon angustipennis.	Avocetta . . . . .	Avocettula recurvirostris.
		Azaræ, <i>Vieill.</i> . . . .	Not determined.

azureus . . . . .	Hylocharis cyanea.	Chimborazo . . . . .	Oreotrochilus Chimborazo.
Bahamensis . . . . .	Dorica Evelynæ.	chionogaster . . . . .	Leucippus chionogaster.
Bancrofti . . . . .	Eulampis jugularis.	chionopectus . . . . .	Thaumatias chionopectus.
Barroti . . . . .	Heliothrix Barroti.	chionura . . . . .	Thaumatias chionurus.
— . . . . .	— violifrons.	chionurus . . . . .	
Benjamini . . . . .	Urosticte Benjamini.	chlorocephala . . . . .	Eucephala chlorocephala.
Benjaminus . . . . .		chlorocephalus . . . . .	
beryllina . . . . .	Pyrrhophæna beryllina.	chlorolæma . . . . .	Eulampis chlorolæmus.
beryllinus . . . . .		chlorolæmus . . . . .	
bicolor . . . . .	Hylocharis cyanea.	chlorolaimus . . . . .	Polytmus virescens.
— . . . . .	Thalurania? Wagleri.	chloroleucurus . . . . .	
bifurcata . . . . .	Lesbia eucharis.	chlorolophus . . . . .	Orthorhynchus exilis.
bilobus . . . . .	Heliactin cornuta.	chloropogon . . . . .	Urolampra chloropogon, <i>Cab. et</i>
bilopha . . . . .		— . . . . .	<i>Hein.</i> Not seen.
bilophus . . . . .	Cynanthus cyanurus?.	chrysobronchus . . . . .	Polytmus virescens.
bipartitus, <i>Lath.</i> . . . .		chrysochlois . . . . .	Cometes sparganurus.
Boliviana . . . . .	Lampropygia Boliviana.	chrysogaster . . . . .	Chlorostilbon chrysogaster.
— . . . . .	Phaëthornis Boliviana.	— . . . . .	— Haeberlini.
bombilus . . . . .	Acestrura Heliodori.	— . . . . .	Helianthea Bonapartei.
Bonapartei . . . . .	Helianthea Bonapartei.	chrysogastra . . . . .	Chlorostilbon chrysogaster.
Boothi . . . . .	Calypte Helena.	chrysolopha . . . . .	Heliactin cornuta.
Bougueri . . . . .	Urochroa Bougueri.	chysura . . . . .	Chrysura chysura.
Bourcier . . . . .	Phaëthornis Bourcier.	chysurus . . . . .	
brachyrhynchus . . . . .	Ramphomicron microrhynchum.	— . . . . .	Grypus Spixi.
Brasilianus . . . . .	Glaucis hirsuta.	— . . . . .	Cometes sparganurus.
Brasiliensis . . . . .	Pygmornis Eremita.	— . . . . .	Polytmus viridissimus.
— . . . . .	Phaëthornis squalida.	ciliatus, <i>Lath. MS.</i> . . . .	Not determined.
— . . . . .	— superciliosa.	cinereicollis, <i>Vieill.</i> . . . .	
— . . . . .	Glaucis hirsuta.	cinereus . . . . .	Campylopterus latipennis.
brevicaudatus . . . . .	Chlorostilbon brevicaudatus.	cinnamomea . . . . .	Eustephanus Fernandensis.
brevicaudus . . . . .	Calliphlox amethystina.	— . . . . .	Pyrrhophæna cinnamomea.
brevirostris . . . . .	Thaumatias brevirostris.	Circe . . . . .	Circe latirostris.
bromicolor . . . . .	Lampornis porphyurus.	cirrochloris . . . . .	Aphantochroa cirrochloris.
Buffoni . . . . .	Chalybura Buffoni.	cirrochloris . . . . .	
cærulea . . . . .	Eucephala cærulea.	cissura . . . . .	Spathura cissura.
cæruleicapilla . . . . .	Chrysura cæruleicapilla.	Clarissa . . . . .	Heliangelus Clarissæ.
cæruleiceps . . . . .	Thaumatias cæruleiceps.	Clarissæ . . . . .	
cæruleigaster . . . . .	Chalybura cæruleogaster.	Clarisse . . . . .	Cœligena Clemenciæ.
cæruleigularis . . . . .	Sapphironia cæruleigularis.	Clemenciæ . . . . .	
cæruleiventris . . . . .	Chalybura cæruleogaster.	Cleopatra . . . . .	Thaumatias leucogaster.
cæruleogaster . . . . .		cœlestis . . . . .	Cynanthus cœlestis.
cæruleogularis . . . . .	Sapphironia cæruleigularis.	— . . . . .	Tryphæna Duponti.
cæruleo-lavata . . . . .	Eucephala cæruleo-lavata.	cœligena . . . . .	Lampropygia cœligena.
cærulescens . . . . .	Sapphironia cæruleigularis.	cœlina . . . . .	Sapphironia cæruleigularis.
cæruleus . . . . .	Eucephala cærulea.	coeruleiventris . . . . .	Chalybura cæruleogaster.
caligatus . . . . .	Saucerotia Sophieæ.	collaris . . . . .	Selasphorus rufus.
Calliope . . . . .	Stellula Calliope.	colubris . . . . .	Trochilus colubris.
campestris . . . . .	Calliphlox amethystina.	Columbica . . . . .	Thalurania Columbica.
campyloptera . . . . .	Sphenoproctus Pampa.	Columbiana . . . . .	
campylopterus . . . . .	Campylopterus latipennis.	Columbicus . . . . .	Mellisugus, "Linn." <i>Reichenb.</i>
campylostylus . . . . .	Aphantochroa cirrochloris.	concinna, <i>Steph.</i> . . . .	
candida . . . . .	Thaumatias candidus.	Condaminei . . . . .	Eutoxeres Condaminei.
candidus . . . . .		Condamini . . . . .	Bourcieria Conradi.
Caniveti . . . . .	Chlorolampis Caniveti.	Conradi . . . . .	
Capensis, <i>Gmel.</i> . . . .	Not determined.	consobrinus . . . . .	Phaëthornis consobrina.
carbunculus . . . . .	Chrysolampis moschitus.	Constantii . . . . .	Helimaster Constanti.
Caroli . . . . .	Cometes? Caroli.	Conversii . . . . .	Gouldia Conversi.
Carolus . . . . .		conurus, <i>Steph.</i> . . . .	Not determined.
Cassini . . . . .	Trochilus Alexandri.	Coræ . . . . .	Thaumatista Coræ.
castaneiventris . . . . .	Anthocephala? castaneiventris.	Coræ . . . . .	
— . . . . .	Pyrrhophæna castaneiventris.	corallirostris . . . . .	Pyrrhophæna cinnamomea.
castaneocauda . . . . .	Heliopectica Xantusi.	Corinna, <i>Less.</i> . . . .	Helimaster longirostris.
castaneiventris . . . . .	Anthocephala? castaneiventris.	cornuta . . . . .	Heliactin cornuta.
Castelnaudi . . . . .	Agleactis Castelnaudi.	cornutus . . . . .	Petasophora coruscans.
Castelnaui . . . . .		coruscans . . . . .	
Castelneani . . . . .	Mellisuga minima.	coruscus . . . . .	Ramphomicron heteropogon.
Catharinæ . . . . .		— . . . . .	Calothorax cyanopogon.
caudacutus, <i>Vieill.</i> . . . .	Not determined.	Costæ . . . . .	Calypte Costæ.
caumatonota . . . . .	Agleactis caumatonota.	crispa . . . . .	Petasophora serrirostris.
caumatonotus . . . . .		crispus . . . . .	
Ceciliæ . . . . .	Oreotrochilus Estellæ.	cristata . . . . .	Orthorhynchus cristatus.
cephalatra . . . . .	Aithurus polytmus.	cristatellus . . . . .	— exilis.
cephalus . . . . .	Phaëthornis longirostris.	cristatus . . . . .	— cristatus.
cervina . . . . .	Dolerisca cervina.	crypturus . . . . .	Panychlora Aliciæ.
cervinicauda . . . . .	Threnetes cervinicauda.	cuculliger . . . . .	Heliopædia melanotis.
cerviniventris . . . . .	Pyrrhophæna cerviniventris.	cupreicauda . . . . .	Metallura cupreicauda.
chalcotis . . . . .	Petasophora serrirostris.	cupreicaudus . . . . .	
chalybea . . . . .	Polemistria chalybea.	cupreiventris . . . . .	Eriocnemis cupreiventris.
chalybeus . . . . .		cupreocauda . . . . .	Metallura cupreicauda.



cupreiventris . . . . .	Eriocnemis cupreiventris.	enicura . . . . .	Doricha enicura.
cupricauda . . . . .	Metallura cupreicauda.	enicurus . . . . .	
cupripennis . . . . .	Aglæactis cupripennis.	ensifera . . . . .	Docimastes ensiferus
cupriventris . . . . .	Eriocnemis cupreiventris.	ensiferus . . . . .	
curvipennis . . . . .	Sphenoproctus curvipennis.	ensipennis . . . . .	Campylopterus ensipennis.
Cuvieri . . . . .	Phæochroa Cuvieri.	Eos . . . . .	Helianthea Eos.
cyanea . . . . .	Hylocharis cyanea.	Episcopus . . . . .	Pygmornis Episcopus.
cyaneipectus . . . . .		Eremita . . . . .	— Eremita.
cyanipectus . . . . .	Sternoclyta cyaneipectus.	Eriphyle . . . . .	
cyanopectus . . . . .		Eryphila . . . . .	Thaluranina Eriphyle.
cyaneus . . . . .	Eulampis jugularis.	Eryphile . . . . .	
— . . . . .	Hylocharis cyanea.	erythronota . . . . .	
— . . . . .	Cyanomyia cyanicollis.	erythronotos . . . . .	Erythronota antiqua.
cyanicollis . . . . .	Hemithylaca cyanifrons.	erythronotus . . . . .	
cyanifrons . . . . .	Cyanomyia cyanocephala.	erythrorhyncha, Bp. . . . .	Not a species.
cyanocephala . . . . .	— Guatemalensis.	Esmeralda . . . . .	Panychlora Poortmanni.
— . . . . .	— quadricolor.	Estella . . . . .	
—, Gmel. . . . .	Not determined.	Estellæ . . . . .	Oreotrochilus Estellæ.
cyanocollis . . . . .	Cyanomyia cyanicollis.	euantes . . . . .	Ramphomicon microrhynchum.
cyanogenys . . . . .	Eucephala cyanogenys.	eucharis . . . . .	Lesbia eucharis.
cyanomelas . . . . .	Eulampis jugularis.	euchloris . . . . .	Panychlora euchloris.
	Sapphironia cæruleigularis.	Eurynome . . . . .	Phaëthornis Eurynome.
cyanopectus . . . . .	Sternoclyta cyaneipectus.	Eurynomus . . . . .	
cyanopogon . . . . .	Calothorax cyanopogon.	euryptera . . . . .	Avocettinus eurypterus.
cyanopterus . . . . .	Pterophanes Temmincki.	eurypterus . . . . .	
	Eriocnemis cupreiventris, Rei-	Evelina . . . . .	
cyanopygos . . . . .	— chemb.	Evelinæ . . . . .	Doricha Evelynæ.
cyanotis . . . . .	Petasophora cyanotis.	Evelynæ . . . . .	
cyanotus . . . . .		excisus . . . . .	Thaluranina Eriphyle.
cyanura . . . . .	Pyrrhophæna cyanura.	exilis . . . . .	Orthorhynchus exilis.
cyanurus . . . . .	Cynanthus cyanurus.	eximia . . . . .	Eupherusa eximia.
—, Gmel. . . . .	Not determined.	eximius . . . . .	
cyanus, Vieill. . . . .		exortis . . . . .	Heliotrypha Parzudaki.
Daphne . . . . .	Chlorostilbon Daphne.	falcata . . . . .	
dasyptus . . . . .	Eriocnemis Alinæ.	falcatus . . . . .	Campylopterus lazulus.
Davidianus . . . . .	Pygmornis rufiventris.	fallax . . . . .	Dolerisca fallax.
decorata . . . . .		Fannie . . . . .	Thaluranina Fannie.
decoratus . . . . .	Acestrura decorata.	Fannyi . . . . .	
decorus . . . . .	Lophornis magnificus.	Fanny . . . . .	Myrtis Fannie.
De Filippi . . . . .	Phaëthornis Philippi.	fasciatus . . . . .	Lampornis Mango.
Delalandi . . . . .	Cephalopsis Delalandi.	—, Shaw . . . . .	Not determined.
Delattre . . . . .		Faustine . . . . .	Cyanomyia cyanocephala.
Delattrei . . . . .	Campylopterus hemileucurus.	Felicia . . . . .	
— . . . . .	Lophornis Delattrei.	Feliciæ . . . . .	Erythronota Feliciæ.
Delphina . . . . .		Felicianæ . . . . .	Juliamyia Felicianæ.
Delphine . . . . .	Petasophora Delphinæ.	Fernandensis . . . . .	Eustephanus Fernandensis.
Derbianus . . . . .		ferrugineus . . . . .	Glaucis hirsuta.
— . . . . .	Docimastes ensiferus.	festivus . . . . .	Polemistria chalybea.
Derbyanus . . . . .	Eriocnemis Derbiana.	filicaudus . . . . .	Acestrura Mulsanti.
	Docimastes ensiferus.	fimbriata . . . . .	
	Eriocnemis Derbiana.	fimbriatus . . . . .	Florisuga mellivora.
Derbyi . . . . .	— Derbiana.	flabellifera . . . . .	
Devillei . . . . .	Pyrrhophæna Devillei.	flabelliferus . . . . .	— flabellifera.
dichrous, Licht. . . . .	Chrysuronina chrysura, Reichenb.	flabelliferus . . . . .	
dilophus . . . . .	Helictin cornuta.	flammifrons . . . . .	Eustephanus galeritus.
dispar . . . . .	Heliotrypha Parzudaki.	flavescens . . . . .	Panoplitus flavescens.
Dohrni . . . . .	Glaucis Dohrni.	flavicaudata . . . . .	
Dominica . . . . .	Lampornis gramineus.	flavicaudatus . . . . .	Lafresnaya flavicaudata.
Dominicensis . . . . .	Mellisuga minima.	flavifrons . . . . .	Chlorostilbon Phaëthon.
Dominicus . . . . .	Lampornis aurentulus.	—, Gmel. . . . .	Not determined.
— . . . . .	Glaucis hirsuta.	Floresii . . . . .	Lampornis porphyreus.
— . . . . .	Lampornis gramineus.	— . . . . .	Sceloporus Floresii.
D'Orbigny . . . . .	Eriocnemis D'Orbignyi.	floriceps . . . . .	Anthocephala floriceps.
Doubledayi . . . . .	Circe Doubledayi.	fluviatilis . . . . .	Thaumatias fluviatilis.
— . . . . .	— latirostris.	forcipatus . . . . .	Eupetomena macroura.
Dubusi . . . . .	Pyrrhophæna Riefferi.	forcicata . . . . .	Thaluranina forcicata.
Duchassaigni . . . . .	Sapphironia cæruleogularis.	forcicatus . . . . .	Eustephanus galeritus.
Dumerili . . . . .	Amazilia Dumerili.	— . . . . .	Cynanthus cyanurus.
— . . . . .	Pyrrhophæna Devillei.	Franciæ . . . . .	Cyanomyia Franciæ.
Duponti . . . . .	Tryphæna Duponti.	Fraseri . . . . .	Glaucis Fraseri.
Edwardi . . . . .	Erythronota Edwardi.	fraterculus . . . . .	Phaëthornis fratercula.
elatus . . . . .	Chrysolampis moschitus.	frontalis . . . . .	Iolæma frontalis.
elegans . . . . .	Sporadinus elegans.	— . . . . .	Thaluranina glaucopsis.
— . . . . .	Erythronota elegans.	fulgens . . . . .	Eugenes fulgens.
Elicia . . . . .		fulgidigula . . . . .	Bourcieria fulgidigula.
Elicia . . . . .	Chrysuronina Elicia.	fulgidus . . . . .	Lamprolema Rhami.
Elisa . . . . .		fulvifrons . . . . .	Hylocharis sapphirina.
Elizæ . . . . .	Doricha Elizæ.	fulviventris . . . . .	Dolerisca fallax.
Emile . . . . .	Erythronota Feliciæ.	fulvus, Gmel. . . . .	Not determined.
Emilia . . . . .	Phaëthornis Emilia.	furcata . . . . .	Thaluranina furcata.

furcatoides . . . . .	Thalurania furcatoides.	hypoleucus . . . . .	Leucippus chionogaster.
furcatus . . . . .	— furcata.	— . . . . .	Cyanomyia Franciæ.
— . . . . .	— Tschudii.	hypophæus . . . . .	Chrysolampis moschitus.
furcifer, <i>Shaw</i> . . . . .	Not determined.	icterocephalus . . . . .	Calypte Annæ.
fusca . . . . .	Florisuga atra.	Idaliæ . . . . .	Pygmornis Idaliæ.
fuscaudatus . . . . .	Pyrrhophæna Riefferi.	igneus . . . . .	Chlorostilbon igneus.
fuscus . . . . .	Florisuga atra.	Imperatrix . . . . .	Eugenia Imperatrix.
Gabriel . . . . .	Heliothrix Barroti.	Inca . . . . .	Bourcieria Inca.
Galathea . . . . .	Chlorostilbon prasinus.	inornata . . . . .	} Adelomyia inornata.
galerita . . . . .	} Eustephanus galeritus.	inornatus . . . . .	
galeritus . . . . .		insectivora . . . . .	Bourcieria insectivora.
Gayi . . . . .	Lafresnaya Gayi.	insectivorus . . . . .	Panterpe insignis.
Geoffroyi . . . . .	Schistes personata.	insignis . . . . .	Phaëthornis squalida.
— . . . . .	— Geoffroyi.	intermedia . . . . .	} Phaëthornis squalida.
Georgina . . . . .	} Avocettinus eurypterus.	intermedius . . . . .	
Georginæ . . . . .		iodura . . . . .	Pyrrhophæna iodura.
Gibsoni, <i>Fras</i> . . . . .	A manufactured specimen.	iodurus . . . . .	} Petasophora iolata.
gigantea . . . . .	} Patagona gigas.	iolata . . . . .	
gigas . . . . .		iolatus . . . . .	Lampornis iridescens.
glaucoptis . . . . .	Thalurania glaucopis.	iridescens . . . . .	Smaragdochrysis iridescens.
glaucoptoides, <i>D'Orb</i> . . . . .	} Not determined.	— . . . . .	Diphlogena Iris.
et <i>Lafres</i> . . . . .		Iris . . . . .	Eriocnemis Isaacsoni.
glomata . . . . .	Eriocnemis vestita.	Isaacsoni . . . . .	Chalybura? Isauræ.
Glyceria . . . . .	Cometes? Glyceria.	Isauræ . . . . .	Heliodoxa jacula.
Godini . . . . .	Eriocnemis Godini.	jacula . . . . .	— Jamesoni.
Gorgo . . . . .	Cynanthus cyanurus.	Jamesoni . . . . .	Oreotrochilus Pichincha.
Goudoti . . . . .	Sapphironia Goudoti.	— . . . . .	Petasophora serrirostris.
Gouldi . . . . .	Lesbia Gouldi.	janthinotus . . . . .	} Panoplites Jardinei.
— . . . . .	Lophornis Gouldi.	Jardinei . . . . .	
— . . . . .	Petasophora serrirostris.	Jardini . . . . .	Doryfera Johannæ.
gracilis . . . . .	Lesbia gracilis.	Johannæ . . . . .	Petasophora iolata.
graminea . . . . .	} Lampornis gramineus.	Josephina . . . . .	Chrysuronia Josephina.
gramineus . . . . .		Jourdani . . . . .	Chaetocercus Jourdani.
Granadensis . . . . .	Phæolæma rubinoides.	jugularis . . . . .	Eulampis jugularis.
granatinus . . . . .	Eulampis jugularis.	Julia . . . . .	} Juliomyia typica.
grata . . . . .	Leadbeatera grata.	Julie . . . . .	
Grayi . . . . .	Eucephala Grayi.	Julie . . . . .	Kieneri . . . . .
griseigularis . . . . .	} Pygmornis griseogularis.	— . . . . .	Kingii . . . . .
griseogularis . . . . .		— . . . . .	Cynanthus cyanurus.
Guatemalensis . . . . .	Cyanomyia Guatemalensis.	— . . . . .	Eustephanus galeritus.
Guerini . . . . .	Oxypogon Guerini.	Labrador . . . . .	Myrtis Fannia.
Guimeti . . . . .	Klais Guimeti.	lactea . . . . .	Hylocharis lactea.
Gujanensis . . . . .	Chrysolampis moschitus.	— . . . . .	Thaumantias Linnæi.
gularis . . . . .	Aphantochroa gularis.	— . . . . .	Gouldia Lætitie.
— . . . . .	Lampornis gramineus.	Lætitia . . . . .	} Lafresnaya flavicaudata.
gutturalis . . . . .	— Mango?.	Lætitie . . . . .	
Guy . . . . .	} Phaëthornis Guyi.	Lafresnaya . . . . .	Cephalepis Delalandi.
Guyi . . . . .		Lalandi . . . . .	Calypte Annæ.
Gyrinno . . . . .	Thalurania furcata.	lamprocephalus . . . . .	Lampornis Prevosti, <i>Reichenb</i> .
Haerberlinii . . . . .	Chlorostilbon Haerberlini.	lamprogenias, <i>Bonap</i> . . . . .	Chlorostilbon prasinus.
hæmatorhyncha, <i>Bp</i> . . . . .	Not a species.	lamprus . . . . .	Glaucis lanceolata.
Helena . . . . .	Lophornis Helena.	lanceolata . . . . .	Gouldia Langsdorffi.
Helena . . . . .	Calypte Helena.	Langsdorffi . . . . .	Campylopterus latipennis.
— . . . . .	Lophornis Helena.	largipennis . . . . .	Heliotrypha Parzudaki.
Helianthea . . . . .	Helianthea typica.	lasiopygus . . . . .	Campylopterus latipennis.
Heliodori . . . . .	Acestrura Heliodori.	latipennis . . . . .	— ensipennis.
helios . . . . .	Lophornis magnificus.	— . . . . .	Amazilia pristina.
Heloisa . . . . .	} Atthis Heloise.	latirostris . . . . .	Hylocharis sapphirina.
Heloisæ . . . . .		— . . . . .	Circe latirostris.
hemileucurus . . . . .	Campylopterus hemileucurus.	— . . . . .	— Doubledayi.
— . . . . .	Phlogophilus hemileucurus.	— . . . . .	— latirostris.
Henrica . . . . .	} Delattria Henrici.	lazulinus . . . . .	Hylocharis lactea.
Henrici . . . . .		lazulus . . . . .	Campylopterus lazulus.
Herrani . . . . .	Ramphomicon Herrani.	— . . . . .	Circe Doubledayi.
heteropogon . . . . .	— heteropogon.	— . . . . .	— latirostris.
heteropygia . . . . .	Doricha enicura.	— . . . . .	Lampornis Mango.
hirsuta . . . . .	} Glaucis hirsuta.	— . . . . .	Leadbeatera grata.
hirsutus . . . . .		Leadbeateri . . . . .	Heliomaster Leocadiæ.
hirundinacea . . . . .	Eupetomena macroura.	Leocadiæ . . . . .	} Tryphæna Duponti.
hirundinaceus . . . . .	Gouldia Langsdorffi.	lepida . . . . .	
hispida . . . . .	Phaëthornis hispida.	lepidus . . . . .	Circe Doubledayi.
hispidus . . . . .	} Saucerottia Sophiæ.	Lereboulleti . . . . .	Avocettula recurvirostris.
Hoffmanni . . . . .		Lessoni . . . . .	Cynomyia cyanocephala.
holosericea . . . . .	} Eulampis holosericeus.	— . . . . .	Circe latirostris.
holosericeus . . . . .		— . . . . .	Oreopyra leucaspis.
Humboldt . . . . .	Chrysuronia Humboldt.	leucaspis . . . . .	Helioptædia melanotis.
humilis . . . . .	Mellisuga minima.	leucocrotaphus . . . . .	Heliothrix aurita.
hyperythrus . . . . .	Campylopterus hyperythrus.	— . . . . .	Leucippus chionogaster.
hypocyanea . . . . .	Eucephala hypocyanea.	leucogaster . . . . .	

leucogaster . . . }	Thaumatias leucogaster.	melanotis . . . }	Heliopædica melanotis.
leucogastra . . . }		melanotus . . . }	
leucophaea . . . }	Amazilia leucophaea.	melanura . . . }	Glaucis melanura.
leucophrys . . . }	Phaëthornis squalida.	mellisugus . . . }	Chlorostilbon Atala.
leucopleurus . . . }		— . . . }	Thaumatias leucogaster.
leucopterus . . . }	Oreotrochilus leucopleurus.		
leucopygius . . . }	Florisuga atra.	mellivora . . . }	Florisuga mellivora.
leucotis . . . }	Heliopædica melanotis.	mellivorus . . . }	
leucurus . . . }	Threnetes leucurus.	Meriphile . . . }	Thalurania Eriphyle.
Libussa . . . }	Heliangelus Clarissæ.	Merrittii . . . }	Klais Guimeti.
Lichtensteinii . . . }	Panoplitæ flavescens.	mesoleuca . . . }	
ligonicauda . . . }		mesoleucus . . . }	Lepidolarynx mesoleucus.
ligonicaudus . . . }	Discura longicauda.	metallicus . . . }	Chlorostilbon Phaëthon.
Lindeni . . . }	Oxypogon Lindeni.	Mexicanus . . . }	Eulampis holosericeus.
Linnæi . . . }	Thaumatias Linnæi.	microrhyncha . . . }	
Loddigesii . . . }	Cephalepis Loddigesii.	microrhynchum . . . }	
longicauda . . . }		microrhynchus . . . }	Ramphomicron microrhynchus.
longicaudus . . . }	Discura longicauda.	micrura . . . }	
longirostris . . . }	Eulampis longirostris.	micurus . . . }	Acestrura micrura.
— . . . }	Heliomaster longirostris.	Milleri . . . }	Oreotrochilus leucopleurus.
— . . . }	— Stuartæ.	— . . . }	Thaumatias Milleri.
— . . . }	— mesoleucus.	minima . . . }	
— . . . }	Phaëthornis longirostris.	minimus . . . }	Mellisuga minima.
Longuemarei . . . }		minullus, Vieill. . . }	Not determined.
Longuemareus . . . }	Pygmornis Longuemareus.	mirabilis . . . }	Loddigesia mirabilis.
Longuemari . . . }		Mitchelli . . . }	Calliphlox ? Mitchelli.
lophotæ . . . }	Lophornis lophotæ.	Mocca . . . }	Cynanthus Mocca.
Luciani . . . }	Eriocnemis Luciani.	modestus . . . }	Chlorolampis auriceps.
lucida . . . }		montana . . . }	
lucidus . . . }	Heliopædica melanotis.	montanus . . . }	Selasphorus platycercus.
— . . . }		Moorei . . . }	Phaëthornis consobrina.
Lucifer . . . }	Cæligena Clemenciæ.	moschita . . . }	
Calothorax cyanopogon.		moschitus . . . }	Chrysolampis moschitus.
Ludoviciæ . . . }	Doryfera Ludoviciæ.	Mosquera . . . }	Eriocnemis Mosquera.
lugens . . . }	Eriocnemis lugens.	mosquitos . . . }	Chrysolampis moschitus.
lugubris . . . }	Florisuga atra.	Mossai . . . }	Cometes ? Glyceria.
Lumachella . . . }		Mulsanti . . . }	Acestrura Mulsanti.
Lumachellus . . . }	Augastes Lumachellus.	multicolor, Gmel. . . }	Not determined.
Lutetiæ . . . }	Helianthea Lutetiæ.	mystacinus . . . }	Lepidolarynx mesoleucus.
Lydia . . . }	Thalurania verticeps.	mystax . . . }	Polemistria chalybea.
macroura . . . }		nævus . . . }	
macrourus . . . }	Eupetomena macroura.	nævius . . . }	Grypus nævius.
macrura . . . }		Napensis . . . }	Chlorostilbon Napensis.
maculata . . . }	Adelomyia maculata.	Nattereri . . . }	Augastes scutatus.
— . . . }	Thaumatias Linnæi.	Neera . . . }	Chrysoronia Neera.
maculatum . . . }	Grypus nævius.	niger . . . }	Florisuga atra.
maculatus . . . }	Lampornis gramineus.	— . . . }	Mellisuga minima.
— . . . }	Thaumatias Linnæi.	nigra . . . }	— minima.
maculicaudus . . . }	— maculicaudus.	nigricincta . . . }	
maculicollis . . . }	Panychlora Aliciæ.	nigricinctus . . . }	Pygmornis nigricincta.
magnifica . . . }		nigricollis . . . }	Lampornis Mango.
magnificus . . . }	Lophornis magnificus.	nigrirostris, Reichenb. . . }	Not determined.
malaris . . . }	Phaëthornis malaris.	nigrivestis . . . }	Eriocnemis nigrivestis.
Malvina . . . }	Not seen.	nigrofasciata . . . }	
Mango . . . }	Lampornis Mango.	nigrofasciatus . . . }	Thalurania nigrofasciata.
— . . . }	— porphyryrus.	nigrotis . . . }	Heliathrix aurita.
maniculata . . . }	Eriocnemis cupreiventris.	nitens . . . }	Chlorostilbon nitens.
margaritaceus . . . }	Lampornis aurentus.	nitidifrons . . . }	Thaumatias nitidifrons.
Maria . . . }		nitidissimus . . . }	Chlorostilbon prasinus.
Mariæ . . . }	Pyrrhophæna Devillei.	nitidus . . . }	Lampornis Mango.
— . . . }		niveipectus . . . }	Thaumatias chionopectus.
marmoratus . . . }	Aithurus polytmus.	niveiventer . . . }	
Matthewsi . . . }	Lampornis gramineus.	niveiventris . . . }	Erythronota niveiventris.
Maugæi . . . }	Panoplitæ Mathewsi.	niveoventer . . . }	
Maugæus . . . }		Norrissi . . . }	Hemistilbon Norrissi.
Maugeana . . . }		Nuna . . . }	Lesbia Nuna.
Maugeanus . . . }	Sporadinus ? Maugæi.	obscura . . . }	Pygmornis Idaliæ.
Maugei . . . }	Thaumatias Linnæi.	obscurus . . . }	Campylopterus obscurus.
Mavors . . . }	Heliangelus Mavors.	— . . . }	Clytolæma rubinea.
maxillosus . . . }	Phaëthornis malaris ?	—, Gmel. . . }	Not determined.
maximus, Vieill. . . }	Not determined.	Ocai . . . }	Hemistilbon Ocai.
Maynensis . . . }	Leadbeatera Otero, Reichenb.	ochropygos, Natt. . . }	Phaëthornis Pretrei, Reichenb.
Mazeppa . . . }	Glaucis Mazeppa.	œnone . . . }	Chrysoronia œnone.
melananthera . . . }	Spathura melananthera.	opaca . . . }	Metallura cupreicauda.
melanogaster . . . }	Oreotrochilus melanogaster.	opisthocomus . . . }	Cephalepis Loddigesii.
— . . . }	Eugenes fulgens.	Orbigny. . . }	Eriocnemis D'Orbigny.
melanogenys . . . }	Adelomyia melanogenys.	ornata . . . }	
melanolophus, Vieill. . . }	Not determined.	ornatus . . . }	Lophornis ornatus.
melanorhynchus . . . }	Chlorostilbon chrysogaster.	— . . . }	Orthorhynchus ornatus.
melanotis . . . }	Phaëthornis Eurynome.	orthura . . . }	Calliphlox amethystina.



orthurus . . . . .	Calliphlox amethystina.	Pyra . . . . .	Topaza Pyra.
Osberti . . . . .	Chlorolampis Osberti.	quadricolor . . . . .	Cyanomyia quadricolor.
Oseryi . . . . .	Phaethornis Oseryi.	— . . . . .	Lampornis Mango.
Otero . . . . .	Leadbeatera Otero.	Quitensis . . . . .	Metallura Quitensis.
Ourissia . . . . .	Sporadinus? Mangaei.	radius . . . . .	Cometes sparganurus.
pallidiceps . . . . .	Helioaster pallidiceps.	Raimondi . . . . .	Sporadinus Ricordi.
Pamela . . . . .	— . . . . .	rectirostris . . . . .	Doryfera rectirostris.
Pamelæ . . . . .	Aglaeactis Pamela.	recurvirostris . . . . .	Avocettula recurvirostris.
Pampa . . . . .	Sphenoproctus curvipennis.	refulgens . . . . .	Thalaurania refulgens.
— . . . . .	Sphenoproctus Pampa.	Reginæ . . . . .	Lophornis Reginæ.
paradisea . . . . .	Panoplites flavescens.	regis . . . . .	Calliperidia Angelæ, <i>Reichenb.</i>
paradiseus . . . . .	Topaza Pella.	Regulus . . . . .	Lophornis Regulus.
—, <i>Gmel.</i> . . . . .	Not determined.	Reichenbachii . . . . .	Chrysolampis moschitus.
parvirostris . . . . .	Oxyopogon Guerini.	remigera . . . . .	Spathura Underwoodi.
parvula . . . . .	Aglaeactis parvula.	Rhami . . . . .	Lamprolæma Rhami.
Parzudaki . . . . .	Heliotrypha Parzudaki.	rhodotis . . . . .	Petasophora isolata.
Parzudhaki . . . . .	Sporadinus Ricordi.	Ricordi . . . . .	Sporadinus Ricordi.
Paulinæ . . . . .	Metallura tyrianthina.	Riefferi . . . . .	Pyrrhophæna Riefferi.
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Petasophora . . . . .	— . . . . .	rubinea . . . . .	— . . . . .
Petasophorus . . . . .	Petasophora serrirostris.	rubineus . . . . .	Clytolæma rubinea.
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phænolaema . . . . .	Heliothrix phænolæma.	— . . . . .	— rubinoides.
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platycercus . . . . .	Selasphorus platycercus.	rufocaligatus . . . . .	Spathura rufocaligata.
polytmus . . . . .	Aithurus polytmus.	rufus . . . . .	Campylopterus rufus.
Poortmani . . . . .	Panychlora Poortmanni.	— . . . . .	Selasphorus rufus.
Popelairii . . . . .	Prymnacantha Popelairi.	rutila . . . . .	Pyrrhophæna cinnamomea.
porphyrogaster . . . . .	Helianthea typica.	Sabina . . . . .	— . . . . .
porphyurus . . . . .	— . . . . .	Sabinæ . . . . .	Adelomyia melanogenys.
Poucheti . . . . .	Lampornis porphyurus.	sagitta . . . . .	Leadbeatera Otero.
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prasinus . . . . .	Eulampis jugularis.	— . . . . .	— sapphirina.
— . . . . .	Chlorostilbon chrysogaster.	Sappho . . . . .	Cometes sparganurus.
— . . . . .	— prasinus.	Sasin . . . . .	Selasphorus rufus.
Pretrei . . . . .	Polytmus viridissimus.	Saucerottei . . . . .	Saucerottia typica.
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Primolii . . . . .	Lampornis Prevosti.	Saulæ . . . . .	Lafresnaya Saulæ.
Primolina . . . . .	— . . . . .	Saulii . . . . .	— . . . . .
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— . . . . .	— . . . . .	smaragdinicollis . . . . .	Metallura smaragdinicollis.
— . . . . .	Aspasie.	smaragdinis . . . . .	— . . . . .
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— . . . . .	Pygmornis rufiventris.	smaragdo-cærulea . . . . .	Eucephala smaragdo-cærulea.

smaragdo-sapphirinus, <i>Shaw</i> .	Hylocharis cyanea, <i>Reichenb.</i>	Underwoodi . . . . .	Spathura Underwoodi.
Sophie . . . . .	Saucerottia Sophie.	urochrysa . . . . .	Chalybura urochrysia.
sordida . . . . .	Phæoptila sordida.	urochrysa . . . . .	Eriocnemis vestita.
sparganura . . . . .	Cometes sparganurus.	uropygialis . . . . .	Not determined.
sparganurus . . . . .	Spathura Underwoodi.	varius, <i>Gmel.</i> . . . .	Spathura Underwoodi.
spatuligera . . . . .	Heliangelus Spencei.	ventilabrum . . . . .	Thaluranian venusta.
Spencei . . . . .	Grypus Spixi.	venustissimus . . . . .	Eulampis jugularis.
Spixi . . . . .	Campylopterus splendens.	venustus . . . . .	Augastes scutatus.
splendens . . . . .	— Villavicencio.	Veraguensis . . . . .	Lampornis Veraguensis.
— . . . . .	Leadbeatera splendens.	Verreauxi . . . . .	Polemistria Verreauxi.
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typus . . . . .	Phaethornis Guyi.	— . . . . .	
tyrianthina . . . . .	Metallura tyrianthina.		
tyrianthinus . . . . .			

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GRYPUS NÆVUS.

## GRYPUS NÆVIUS.

### Saw-bill.

*Trochilus nævius*, Dumont, Dict. des Sci. Nat., tom. xvii. p. 432.—Temm. Pl. Col. 120. fig. 3.—

Vieill. Ency. Méth. Orn., part ii. p. 548.—Ib. Nouv. Dict. d'Hist. Nat., tom. xxviii.

p. 431.—Drap. Dict. Class. d'Hist. Nat., tom. iv. p. 320.

———— *squamosus*, Licht. in Mus. Berlin.

*Grypus ruficollis*, Spix, Av. Bras., vol. i. p. 79. t. lxxx. fig. 3.

*Mellisuga? nævia*, Steph. Cont. of Shaw's Gen. Zool., vol. xiv. p. 248. pl. 29.

*Ramphodon maculatum*, Less. Hist. Nat. des Col., p. 18. pl. 1.

———— *nævius*, Jard. Nat. Lib. Humming-Birds, vol. i. p. 87. pl. 1.

*Grypus nævius*, Gray and Mitch. Gen. of Birds, vol. i. p. 105.—Bonap. Consp. Gen. Av., p. 67.

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SOUTHERN BRAZIL would seem to enjoy the privilege of claiming this bird as peculiarly its own, as it is from that country alone that specimens have as yet been received. I regard it as the only species of the genus that has been discovered; for although I have often thought that the smaller specimens, with more slender and more curved bills, were different, I now believe they will prove to be females of the present species. Mr. Reeves of Rio de Janeiro, who has had some opportunities of observing both the larger and the smaller birds in a state of nature, has been unable to satisfy himself whether they are or are not distinct, but is inclined to think that they are so, because he has remarked that the smaller birds arrive earlier and remain longer than the larger ones: against such an opinion, however, may be adduced the facts of their inhabiting the same locality at the same season of the year, and that in the nearly allied genera *Glaucis* and *Phaethornis*, a corresponding difference is found in the size of the sexes, the females being much less than the males. In the character and colouring of their plumage too, both the larger and smaller birds are precisely alike even to a feather; on the other hand, in the form of their bills, and in the breadth of their tail-feathers, they are very different; so much so, that many genera have been established on much slighter grounds. It will be for Mr. Reeves, or some other naturalist, who may be favourably situated for investigating the subject, to ascertain with certainty what may be the real state of the case. MM. Delalande and Natterer found this species chiefly on the mountains of Corcovado, in the vicinity of Rio de Janeiro; and in some notes kindly sent me by Mr. Reeves, respecting this and other species that have come under his observation, that gentleman says, that "it also inhabits Rio de Janeiro, but is by no means common, and is very rarely seen in the lowlands. Some years ago, when at Novo Friburgo, I had an opportunity of seeing several examples of this bird. They frequented the virgin forests, and seemed to take their food from under the branches of trees, and even at times from the stumps of decayed trees. On one occasion, after shooting a fine male bird, I discovered in its throat a small species of coleoptera, which had probably been taken from the crevices of an old tree; if such, however, be the case, the birds must be very expert in the operation of rooting out these small insects, as I observed they usually remained motionless in the air only for a second before they made the stoop, which was done so rapidly, that I often doubted, and still doubt, whether they always succeeded in capturing their prey. I never remember seeing this bird near the city. The virgin forests some ten leagues from Novo Friburgo are its favourite haunts; and it is only met with in those unfrequented localities during the months of July, August and September, and occasionally October."

I have also been favoured with some further information respecting this bird by M. Deyrolle, which, slight though it is, I have great pleasure in adding:—

"The *Grypus nævius*," says M. Deyrolle, "is common in all parts of the province of Santa Catharina in Brazil, but is more frequently met with in woody situations than elsewhere. Its flight is exceedingly noisy, very vigorous, and capable of being sustained for a great length of time, the bird rarely alighting. Its cry is so loud and piercing as to be heard above everything else, while it flutters around the flowers of various species of Orchids, from which it obtains its principal nourishment."

In all probability, the serrations with which the apical portion of the cutting edges of both mandibles of this bird are furnished, are expressly provided to enable it to capture with facility some peculiar kind of insect food, perhaps spiders and small coleoptera.

The nest sent to me by Mr. Reeves is precisely similar in form, structure and situation to those constructed by the members of the genus *Phaethornis*, being of a lengthened, pointed form, composed of fine vegetable fibres and mosses, intermingled with which, especially on the lower part, are portions of dead leaves and pieces of lichen; and attached to the extremities of the leaves of apparently a species of Palm.

Forehead, lores and ear-coverts dark brown; all the upper surface, wing- and tail-coverts greenish bronze, each feather narrowly edged with brown, giving it a scale-like appearance; wings purple-brown; two central tail-feathers bronze deepening into dark brown at the tip; the next on each side the same, but slightly tipped with buff; the three lateral feathers purplish brown, washed with bronze at the base, and largely tipped with buff, the two colours meeting in an oblique direction across the feather, and the buff being most extensive on the outer feather, less so on the next, and still less so on the third; over the eye a streak of buff; sides of the throat deep reddish buff; feathers of the chin and down the centre of the throat brownish black edged with pale buff; feathers of the under surface blackish brown, edged on the breast and upper part of the flanks with greyish white, and on the lower part of the flanks and vent with buff, giving the whole a streaked appearance; under tail-coverts buff, with a streak of brown down the centre; bill black, except the basal two-thirds of the lower mandible, which are yellow; feet yellow.

The Plate represents two males, a female, and a nest and eggs, all of the natural size.







GRYPUS SPIXI, *Could*

## GRYPUS SPIXI, *Gould.*

### Spix's Saw-bill.

*Grypus Spixi*, Gould in Proc. of Zool. Soc., part xxviii. p. 304.

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I OBTAINED a single specimen of this bird from M. Parzudaki of Paris, but was unable to learn whence it had been received, a fact which would be of much interest both to myself and to every scientific ornithologist; I have but little doubt, however, that the bird is a native of Brazil.

Not being able to find any published description of a species according with the present bird, whose thick and powerful bill, together with other characters, at once indicate its proper place in the family of Trochilidæ, I have no alternative but to characterize it as new. When I first described it, I accompanied my description with a remark, which I may as well repeat here:—

“This bird is considerably smaller than *G. nævius*, and has a less cuneate tail. It is possible that this may be one of the sexes of *Glaucis Dohrni*; many of its colours would induce such a belief; and if this should prove to be the case, that bird must be removed from the genus *Glaucis* to that of *Grypus*. I have named this species in honour of the celebrated traveller Spix, in whose work there occurs a figure of a bird (*G. ruficollis*) which somewhat resembles my specimen; not so, however, the accompanying description, which appears to be that of the species so frequently sent from Rio de Janeiro, and which is generally known as *Grypus nævius*.”

Crown of the head bronzy brown; upper surface and all the tail-feathers very rich reddish bronze; wings reddish purple-brown; line above the eye buff; ear-coverts dark brown; throat, chest, and under surface deep reddish buff; under tail-coverts bronzy, each slightly tipped with buffy white; upper mandible black; under mandible yellow, with a black tip; feet yellow.

The figures are of the natural size. The plant is the *Brassavola lineata*.









EUTOXERES AQUILA.



## EUTOXERES AQUILA.

### Sickle Bill.

*Trochilus Aquila*, Lodd. MSS. Bourc. in Proc. of Zool. Soc., part xv. p. 42.

*Polytmus Aquila*, Gray and Mitch. Gen. of Birds, vol. i. p. 108. pl. 36.

*Glaucis Aquila*, Bonap. Consp. Gen. Av., p. 67.

*Eutoxeres*, Reich. Av. Syst. Nat., pl. 40.

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Two specimens are all that are known of this rare and singular Humming Bird; of these one is in the Loddigesian Collection, the other in my own. I believe the former was sent to Mr. Loddiges direct from Bogota, and that in rather a singular manner:—the head was first sent, with a request to know if it belonged to a species of interest; upon his replying in the affirmative the body was forwarded, and the bird may now be seen, beautifully mounted and without a trace of the severe treatment to which it had been subjected. My own specimen was procured in a very different locality, having been sent from Veragua in Central America by the well-known botanical traveller M. Warszewicz, who, while crossing from Bocca del Toro on the Atlantic side of the Isthmus of Panama to David on that of the Pacific, was induced to deviate in search of novelties to the Rovalo peak, where his labours were rewarded by the discovery, among other interesting objects, of this very curious bird.

Mr. Loddiges' specimen formed the subject of M. Bourcier's description, and the figures in the accompanying Plate are taken from my own. Judging from the members of the genus *Glaucis*, to which the present form is nearly allied, but little difference will be found to exist in the colouring of the sexes. It is evident that its singularly-shaped bill is adapted for some special purpose, and we may readily infer that it has been expressly formed to enable the bird to obtain its food from the deep and remarkably-shaped flowers of the various Orchidaceous and other plants with curved tubular flowers so abundant in the country the bird inhabits, and for exploring which a bill of any other form would be useless.

At present nothing is known of its habits; we may reasonably hope that this desideratum will be obtained before the close of the present work, in which case the additional information will be found in the general *résumé*.

Crown of the head and a small occipital crest brownish black, with a faint spot of buff at the end of each feather; back of the neck, back, wing-coverts and upper tail-coverts dark shining buffy green; wings purple brown; on the tip of the secondary nearest the body a triangular spot of buffy white, and on the next on each side a still smaller spot; two central tail-feathers dark glossy green slightly tipped with white; the remaining tail-feathers dark glossy green on their outer webs, greenish brown on their inner webs, and largely tipped with white; under surface brownish black, striated with dark buff on the throat and breast, and with white on the abdomen and flanks; under tail-coverts brown fringed with buff, and with a line of buff down the shaft; bill black, with the exception of the basal two-thirds of the lower mandible which is yellow.

The figures represent the bird in two different positions on the *Coryanthes speciosa*.









EUTOXERES CONDAMPNI

## EUTOXERES CONDAMINI.

### Condamine's Sickle-Bill.

*Trochilus Condamini*, Bourc. Compt. Rend. de l'Acad. des Sci. de Paris, tom. xxxii. p. 186.—  
Ib. Rev. Zool. 1851, p. 96.

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For the discovery of a second species of Sickle-Bill, the merit is due to M. Bourcier, who procured a single specimen during his late journey in the Republic of Ecuador; and who has, in the kindest manner, sent this unique specimen from Paris to London, to enable me to give a figure of it in the present work: the notes accompanying it inform me that it inhabits the woods in the environs of Archidona; that its flight is not very rapid; that it obtains its food from the flowers of the *Orchidaceæ*; that, according to the Indians, it is a very rare bird; and that the altitude of its habitat is about 10,000 feet. M. Bourcier has named it after M. de la Condamine, one of the three Academicians sent on a scientific expedition to Ecuador by the French Government in 1742.

Crown of the head dark brown; wing-coverts and back deep bronze; above and below the eye a streak of buff; at the back of the neck, a crescent of dark glossy green; wings purplish brown; upper tail-coverts bronzy green edged with deep buff; two centre tail-feathers dark bronzy green, slightly tipped with white; the next tail-feather on each side brownish black, tipped with white; the three outer feathers on each side deep buff, shading into white at the tip; cheeks and under surface striated with buff and brownish black, the buff predominating on the centre of the abdomen; upper mandible blackish brown; basal half of the under mandible yellow, apical half blackish brown; feet yellow, with dark brown scutellæ.

The figures are of the size of life.









GLAUCIS HIRSUTUS.

## GLAUCIS HIRSUTUS.

### Hairy Hermit.

- Trochilus hirsutus*, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 490.—Vieill. Nouv. Dict. d'Hist. Nat., 2nde Edit. tom. vii. p. 352.—Ib. Ency. Méth. Orn., part ii. p. 556.—Dumont, Dict. des Sci. Nat., tom. x. p. 47.—Temm. Pl. Col. 120. fig. 2.—Less. Hist. Nat. des Col., p. 80. pl. 21.—Jard. Nat. Lib. Humming Birds, vol. ii. p. 129. pl. 29.—Less. Traité d'Orn., p. 290.
- Phæthornus hirsutus*, Jard. & Selb. Ill. Orn., vol. iii. pl. 143.
- Polytmus Brasilianus*, Briss. Orn., tom. iii. p. 670.
- Trochilus Brasiliensis*, Lath. Ind. Orn., vol. i. p. 308.
- Colibris à ventre roussatre*, Buff. Hist. Nat. des Ois., tom. vi. p. 63.
- Le Colibri à pieds vêtus*, Vieill. Ois. Dor., tom. i. p. 40. pl. 20. & p. 122. pl. 68.
- Polytmus hirsutus*, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 33.
- Glaucis hirsutus*, Boie in Oken's Isis, 1831.—Bonap. Consp. Gen. Av., p. 67, *Glaucis*, sp. 1.—Ib. Rev. et Mag. de Zool. 1854, p. 249.
- Rufous-bellied Humming Bird*, Lath. Gen. Syn., vol. ii. p. 760.—Ib. Gen. Hist., vol. iv. p. 315.—Shaw, Gen. Zool., vol. viii. p. 302.
- Glaucis hirsuta*, Reichenb. Aufz. der Colibris, p. 15.—Ib. Troch. enumer., p. 12.
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It is very generally admitted by Trochilidists that there are two most nearly allied species of *Glaucis*, which have been respectively named *hirsutus* and *Mazeppa*; the former name having been given by Gmelin to a Brazilian bird, and the latter by Lesson to a species inhabiting Guiana; but it yet remains to be seen whether they are really distinct. On examining again for the twentieth time the very numerous series of birds of this form from various parts of South America contained in my collection, I have not been able satisfactorily to determine if they are all referable to one and the same, or if they constitute two or three species. I have looked for assistance in vain to the plates and descriptions published by Vieillot, Lesson, and others; they tend rather to confuse than to afford any clue to a just discrimination. The colouring of the examples I possess, favours the opinion that there are three distinct species, or if not species, well-marked local varieties. Of these, one, inhabiting the eastern parts of Brazil generally, from Rio de Janeiro to the Amazon, and even extending its range to Guiana and Trinidad, may, if it should ultimately prove that there are more than one species, bear the name of *hirsutus*, the specimen to which Gmelin applied that term being from the Brazils. A somewhat smaller bird, with a greater amount of white on the tips of the tail-feathers, and with the rufous colouring of the under surface extending farther on to the sides of the neck and flanks, and which is rather widely diffused over Cayenne, British and Dutch Guiana, Tobago, and perhaps some other of the West India Islands, if distinct, may have the name of *Mazeppa* retained for it. The third, which is more nearly allied to the Brazilian than to the Guiana bird, is from Bogota: this, which has the throat and abdomen much suffused with green, has not yet, I believe, received a specific appellation, and for the present I do not venture upon proposing one; trusting that time and research will throw more light upon the subject, and enable us to clear up the confusion at present existing. What course then am I to take, with regard to the numerous synonyms referring to these birds? Perhaps it would be better to omit them altogether, since it is almost impossible to determine with certainty to which of the birds they apply; but as this might not be considered satisfactory, I have quoted above all that appear to me to refer to the bird here represented; the others will be found under *Mazeppa*, should it prove to be distinct.

M. Lesson questions whether his *Mazeppa* may not be the female of a species unknown to us, but to this



opinion I cannot assent, as no material difference occurs in the colouring of the birds of this genus; the females, however, are a trifle smaller in size. It is true that in some individuals a more pointed form of tail-feather is observable, and that these pointed feathers are generally most strongly tipped with white; but this difference I consider to be solely attributable to age, as the younger the bird the greater the extent of the white on the tips of the tail, and although this character is never wholly wanting, in some instances it is quite obscure. I trust it will be understood that the above remarks have no reference whatever to the *Glaucis Dohrni*, which is a very distinct species. Mr. Reeves of Rio de Janeiro informs me that the *Glaucis hirsutus* is common both in Rio de Janeiro and Bahia.

M. Bourcier states, that the *G. hirsutus* inhabits Brazil as far south as St. Catharine; that it is different from the *G. Mazeppa*, which is a native of Cayenne; and that both these birds live in gloomy and humid woods, and obtain their food from the flowers of orchidaceous plants.

All the upper surface, sides of the neck, wing- and upper tail-coverts green, suffused with brown on the head; tail-coverts fringed with grey; wings purplish brown; two central tail-feathers green, merging into blackish brown near the extremity, and tipped with white; lateral tail-feathers dark chestnut-red, margined on their apical half with brown, and with a crescentic mark of the same colour at the extremity; those nearest the middle feathers are also slightly tipped with white; throat, all the under surface, and the under tail-coverts dark chestnut-red; upper mandible and point of the under mandible black, basal three-fourths of the under mandible yellow; feet yellowish.

The Plate represents a male of the natural size. The plant is the *Bifrenaria Hadwenii*.





GLAUCIS MAZEPPA.



## GLAUCIS MAZEPPA.

### Mazeppa Hermit.

*Trochilus Mazeppa*, Less. Les Troch., p. 18. pl. 3; Jard. Nat. Lib. Humming-Birds, vol. ii. p. 130.

*Phaëthornis Mazeppa*, Jard. Nat. Lib. Humming Birds, vol. ii. p. 152.

——— *hirsutus*, Jard. in Ann. and Mag. Nat. Hist., vol. xx. p. 372.

*Polytmus mazeppa*, Gray & Mitch. Gen. of Birds, vol. ii. p. 108, *Polytmus*, sp. 32.

*Glaucis Mazeppa*, Reichenb. Aufz. der Col., p. 15.

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IN figuring this bird as distinct from *G. hirsuta*, I must frankly admit that I am dealing with a difficulty in a manner which I believe no ornithologist can say is right or wrong. It has for many years been questionable whether this small cinnamon-coloured bird be a distinct species or one of the sexes of *G. hirsuta*; and this doubt can never be satisfactorily solved until the bird has been observed in its native country while breeding, and dissection has been resorted to. As far as my experience goes, we find none of the little cinnamon-coloured birds, to which the term *Mazeppa* has been applied, in Southern Brazil or in the Andes of New Granada. In the former country the true *G. hirsuta* is common; and Mr. Lawrence's *G. affinis* is abundant in the Andes. I must not fail to remark, however, that the true *G. hirsuta*, besides being found in Southern Brazil, is also an inhabitant of the Guianas and Trinidad—localities of which the *G. Mazeppa* is also a native. Under these circumstances of uncertainty I have thought it best to give a figure of this bird on a separate plate, which will at least serve to bring the matter prominently into view, and, I trust, be the means of directing the attention of persons who reside in those countries, particularly Trinidad, to the investigation of the subject, so as to set the question at rest.

I believe that the following note by Mr. Kirk has reference to this bird, as I have a specimen in my collection bearing his name and the locality of Tobago on the attached label.

“This little bird,” says Mr. Kirk, “is the most restless of all the Humming-Bird tribe; it can scarcely be said to be seen at rest, but darting right and left, zigzag; at times, when suddenly surprised feeding, uttering a sharp squeak, it will dart off and disappear like a meteor; at other times it will seem as if suspended for several seconds by the point of the bill within three feet of a person's face, after which it is sure to disappear like lightning; in these cases it truly assumes an attitude which a stranger might construe into a meditated attack upon his person. I have often been induced to strike at them with my fowling piece, from their proximity.”—‘*Horæ Zoologicæ*,’ by Sir W. Jardine, Bart., in Ann. and Mag. Nat. Hist. vol. xx. p. 372.

Crown of the head dull brown; all the upper surface, wing- and tail-coverts bronzy green, the latter fringed with grey; wings purplish brown; under surface deep fawn-colour fading into buffy white on the chin; a small mark behind and a stripe below each eye of buffy white; two centre tail-feathers green at the base, the remainder rich deep cinnamon red at the base, the whole crossed near the extremity by a band of black, beyond which the tips are white; upper mandible black; lower mandible yellow at the base, black at the tip; feet yellow or flesh-colour.

The figures are of the size of life. The plant is the *Marsdenia maculata*.









GLAUCIS AFFINIS, *Lawr.*

## GLAUCIS AFFINIS, *Lawr.*

Allied Hermit.

*Glaucis affinis*, Lawr. in Ann. Lyc. Nat. Hist. of New York, vol. vi. p. 261.

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IN my account of *Glaucis hirsuta* I pointed out the differences which exist among specimens of this form from the Andes of Bogota and those from Trinidad and Brazil, and remarked that the former, which has the throat and abdomen suffused with green, and might therefore be regarded as distinct, had not yet received a specific appellation. This has since been bestowed upon it by Mr. G. N. Lawrence, of New York, who says, "This species is a near ally of *G. hirsuta*, and it is with some hesitation I have ventured to characterize it as distinct. Mr. Gould, in his 'Monograph of the Trochilidæ,' under *G. hirsuta*, speaks of a bird from Bogota 'which has the throat and abdomen much suffused with green,' which he thinks nearly allied to *hirsuta*, and possibly different; but he does not incline to give it a specific appellation until further light is obtained. The example I have described may be the same as the Bogota bird, but differs so much in the sombre colouring of its under plumage from the more uniform rufous which prevails in those parts in all the specimens I have seen from Cayenne, Trinidad, &c., and in the much darker green of its upper plumage, that I cannot but regard them as different species." Specimens from the banks of the Napo, to which Mr. Lawrence's remark applies, are somewhat darker-coloured than those from Bogota; still I have no doubt of their being referable to the same bird.

The following is Mr. Lawrence's description of this species :—

"Top of the head dark brown; back and wing-coverts shining grass-green; upper tail-coverts fringed with grey; chin dark brownish grey; centre of the throat dull brownish rufous; sides of the neck and breast dull dark green intermixed with rufous; abdomen and sides pale rufous; under tail-coverts white, with their centres very pale fawn-colour, two centre tail-feathers dark green tipped with white, inside which is a narrow black band; the outer tail-feathers are chestnut-red for two-thirds of their length from the base, the remainder purplish black with white tips; wings purplish brown; upper mandible black; lower mandible yellow with a black tip; irides black; feet pale yellow."

The figures in the accompanying plate, which are of the size of life, were taken from Bogotan specimens. The plant is the *Lopimia malacophylla*.









GLAUCIS LANCEOLATA, *Gould.*

## GLAUCIS LANCEOLATA, *Gould.*

### Lanceolate Hermit.

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MANY years have now elapsed since I received, direct from Para, three specimens, all of which appear to be fully adult, of a species of *Glaucis* which M. Bourcier, of Paris, as well as myself, considers to be distinct from any of those already described. This bird is figured on the accompanying plate; and it will be readily seen that, although it bears a general resemblance to the *G. Mazeppa*, it has a very different tail, the feathers being narrow and much more pointed or lance-shaped. I am quite aware that this pointed form of tail-feather is characteristic of the young of nearly all the species of the genus, and indeed of the genera *Phaethornis*, *Eutoxeres*, and *Threnetes*; but in no instance have I seen it carried to so great an extent as in the specimens above mentioned. They also exhibit another characteristic of the young of most, if not all the species of this section of the *Trochilidæ*—namely that of having the primaries and secondaries narrowly margined with buffy grey. With this remark I leave the subject for the consideration of future ornithologists, and content myself with suggesting that one of the points to which we should all direct attention is that of ascertaining the specific value of this and the three or four nearly allied members of the genus *Glaucis*—namely, *G. hirsuta*, *G. Mazeppa*, *G. melanura*, and *G. affinis*—whether they are all referable to one, or constitute as many distinct species. The very wide extent of country over which these birds range is in favour of the latter hypothesis.

Crown of the head dark brown; all the upper surface, wing-coverts, and sides of the neck shining green; two centre tail-feathers green, tipped with white, the next rufous at the base, black glossed with green near the extremity, and tipped with white; the three outer ones on each side rich deep rufous, crossed near the extremity by a band of black, beyond which the tips are white; wings purplish brown, the primaries and secondaries margined at their tips with buffy grey; lores and ear-coverts dark brown; mark behind the eye, stripe from the angle of the bill and the chin buff; throat and breast rufous, becoming much paler on the abdomen, and still paler on the under tail-coverts; upper mandible blackish brown; under mandible yellow, with a black tip; feet yellow or flesh-colour.

The figures are of the size of life. The plant is the *Gesneria bulbosa*, var. *lateritia*.









GLAUCIS MELANURA, Gould.

*J. Gould and M.C. Richter, del et lith.*

*Hullmánsdel & Walton, Imp.*



## GLAUCIS MELANURA, *Gould.*

### Black-tailed Hermit.

*Glaucis melanura*, Gould in Proc. of Zool. Soc., part xxviii. p. 304.

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THE bird figured in the accompanying Plate must not be confounded with either of the species I have mentioned in my account of *Glaucis hirsutus*; it is much smaller than either of them, and moreover has a far greater amount of black colouring in its tail—the extreme base, and that only of the inner webs of the feathers, being marked with chestnut; in fact, when the tail is closed and viewed from beneath, it appears to be entirely black, the under coverts concealing the buff colouring at its base.

I possess two specimens of this bird, one of which was received from the Napo, the other, a very fine one, from the Rio Negro.

Centre of the throat, chest, and under surface buff; a streak of dark brown passes downwards from the base of the lower mandible, between which and the ear-coverts is a stripe of buff; there is also a line of buff behind the eye; crown of the head brown; back of the neck, upper surface, and two middle tail-feathers golden-green; upper tail-coverts narrowly edged with grey; basal portion of the inner webs and the shafts of the four lateral tail-feathers rich reddish-buff approaching to chestnut, the remainder of these feathers being black, tipped with white; bill black, except the under base of the mandible, which is yellow.

The figures in the accompanying Plate are as near the size of life as possible. The plant is the *Siphocampylus Orbignianus*.









GLAUCIS DOHRNI.

*J. Gould von H. C. Richter del et lith*

*Kullmann del & Witten. Farb.*

## GLAUCIS DOHRNI.

Dohrn's Hermit.

*Trochilus Dohrnii*, Bourc. Ann. de la Soc. Sci. de Lyon, May 7, 1852.

*Glaucis Dohrni*, Bonap. Rev. et Mag. de Zool. 1854, p. 249.—Reichenb. Aufz. der Colibris, p. 15.

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Up to within a few weeks of the present time, July 1855, a single specimen only of this bird, so far as I am aware, was to be found in Europe. The specimen alluded to, which is said to have been procured in Ecuador, forms part of the Collection of M. Bourcier, and was kindly transmitted to London for the purpose of being figured in the present work: after my figures of this then unique bird had been drawn and the Plate printed, I myself received a very fine example direct from Rio de Janeiro, where it was collected by M. De Gand in the district of Espiritu Santo. In all probability, then, this bird inhabits the interior of Brazil as well as the country whence M. Bourcier received his example. I regret that I had not received my bird before the Plate was printed, as I might have made some differences in the figures; for I find that M. Bourcier's specimen has been contracted in the process of mounting, and that consequently the drawing does not represent the bird so large as life: it will be seen also, on reference to the figures, that most of the tail-feathers are represented as indented at the extremity; I at first thought that this was a peculiar character, but in my specimen this feature occurs only in one feather, all the others being beautifully tipped with fawn-white, which portion of the feather has, by some process unknown to us, been thrown off in M. Bourcier's specimen. When perfect, this is a very fine species: it is nearly allied to *Glaucis hirsutus*, but differs in having all the tail-feathers, except at their extreme tips, of a beautiful bronzy green instead of chestnut.

M. Bourcier has "dedicated this species to M. Dohrn, President of the Entomological Society of Stettin, and one of the most zealous friends of the natural sciences."

Head, upper surface and wing-coverts dull green; rump and upper tail-coverts dull green, bordered with a rufous tint; tail bronzy green, each feather tipped with fawn-white, the extent of which increases as the feathers recede from the centre; wings purplish brown; above and behind the eye a stripe of pale buff; throat and all the under surface, including the under tail-coverts, deep fawn-colour; upper mandible black; under mandible straw-white for the basal two-thirds of its length, black on the apical third; feet yellow.

The plant is the *Barnadesia rosea*.









GLAUCIS RUCKERTI

*Painted and Engraved by J. A. Rehn*

*Published by S. W. H. & Co. New York*

## GLAUCIS RUCKERI.

Rucker's Hermit.

*Trochilus Ruckeri*, Bourc. in Proc. Zool. Soc., part xv. p. 46.

*Polytmus Ruckeri*, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 38.

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THIS species of *Glaucis*, which has only been found hitherto in Veragua and the adjacent states of Central America, is so rare, that two specimens in my own collection, from which the figures were taken, and a third, imperfect in the plumage of the chest, in that of Mr. Loddiges at Hackney, are all the examples that have come under my notice.

When describing the new species of Humming Birds contained in the Loddigesian collection, M. Bourcier very appropriately dedicated this species to Sigismund Rucker, Esq., of Wandsworth, a gentleman distinguished alike for his love of natural science and for his refined taste in the arts.

No species of this sombre-coloured genus is so varied in its markings as the present bird, which is at once distinguished from its congeners by its bicoloured tail and rufescent chest. The specimens in my own collection were recently transmitted to me by M. Warszewicz, the intrepid traveller now engaged in search of botanical rarities in the most remote parts of the vast forests of the great Andean Ranges of the New World. In order to give a just idea of this new species, I have figured it in various positions on one of the beautiful Orchids of the country in which it is found, namely the *Sobralia decora*. Judging from the other members of the genus *Glaucis*, but little difference will be found in the colouring of the plumage of the two sexes.

Crown of the head, neck, scapularies, back and upper tail-coverts dark shining bronzy green; lores and streak behind the eye black, above the posterior portion of which is a streak of white, and beneath it another commencing at the angle of the bill; chin dark brown; on the centre of the throat a patch of rufous; under surface brownish grey, with bronzy reflexions; wings purple-brown; under tail-coverts bronzy green; two centre tail-feathers dark shining green, slightly tipped with white; the remainder white at the base and tip, the central portion being occupied by a broad band of brownish black; upper mandible black; basal three-fourths of the under mandible yellow, the tip black.

The figures are of the natural size.









GLAUCIS FRASERI, *Gould*.



## GLAUCIS FRASERI, *Gould.*

### Fraser's Hermit.

*Glaucis Ruckeri*, Sclat. in Proc. of Zool. Soc., part xxviii. p. 296.

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“MR. FRASER collected at Babahoyo, in Ecuador, specimens of a bird which both Dr. Sclater and myself considered to be identical with the *Glaucis Ruckeri*, but which, on a more minute comparison with specimens from Veragua, I find to be sufficiently different to entitle it to be regarded as distinct; I have therefore named it after its discoverer, as a just tribute to one who has played a good part in the furtherance of science. The *G. Fraseri* differs from *G. Ruckeri* in being rather larger in size, in having a smaller amount of rusty red on the chest, and in having a decidedly grey breast; in other respects the two birds are similar.”

The foregoing paragraph appears in the Introduction, and I really have nothing to add to it respecting the history of this bird. In favour of its being distinct, I may remark that it is quite an exceptional case for a species to range over so many degrees of latitude as those between the country frequented by the *G. Ruckeri* and that of which the present bird is a native. Whether the *G. Ruckeri* and *G. Fraseri* will prove to be local varieties of one and the same species, time and a more intimate knowledge of the *Trochilidæ* inhabiting the western coast of America can alone determine; for the present they should, in my opinion, be regarded as two different species. Whether any variation occurs in the outward appearance of the sexes is entirely unknown; in all probability they will be precisely similar in the colouring of their plumage.

Mr. Fraser states that this species was “found on the edge of the virgin forest; always solitary; generally in dark and lonely places, and very restless.”

All the upper surface and wing-coverts green, inclining to bronzy brown on the head; wings deep purplish brown; two centre tail-feathers green, deepening into black and tipped with white; the remainder white at the base and at the tip, the intermediate space being occupied by a broad zone of black; an obscure line of buffy white descends from the base of the bill; on each side behind the eye a greyish-white spot; throat blackish brown, succeeded by a spot of dull rusty red; breast and flanks deep olive-green mingled with grey; abdomen grey; under tail-coverts lustrous olive-green, some of them margined with buff; upper mandible black; lower mandible yellow, with a dark tip; legs and feet flesh-colour; irides hazel.

The figures are of the size of life. The plant is the *Cattleya maxima*.









THRENETES LEUCURUS.

## THRENETES LEUCURUS.

### White-tailed Barbed-throat.

- Trochilus leucurus*, Linn. Syst. Nat., vol. i. p. 190.—Ib. Gmel. Edit., vol. i. p. 487.—Lath. Ind. Orn., vol. i. p. 307.—Less. Hist. Nat. des Col., p. 83. pl. 22.—Vieill. Ency. Méth. Orn., part ii. p. 553. pl. 129. fig. 5.—Dumont, Dict. des Sci. Nat., tom. x. p. 52.—Drapiez, Dict. Class. d'Hist. Nat., tom. iv. p. 317.
- Polytmus Surinamensis*, Briss. Orn., vol. iii. p. 674.—Id. 8vo, vol. ii. p. 22.
- Colibri à Collier rouge*, Buff. Hist. des Ois., tom. vi. p. 59.—Ib. Pl. Enl. 600. fig. 4.—Vieill. Ois. dor., tom. i. p. 128.
- White-tailed Humming-Bird*, Lath. Gen. Syn., vol. ii. p. 757.—Edw., pl. 256. fig. 2.—Shaw, Gen. Zool., vol. viii. p. 293.—Lath. Gen. Hist., vol. iv. p. 308.
- Rufous-throated Humming-Bird*, Lath. Gen. Hist., vol. iv. p. 308.
- Polytmus leucurus*, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 21.
- Glaucis leucurus*, Bonap. Consp. Gen. Av., p. 67, *Glaucis*, sp. 2.
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THAT the present species was known to Linnaeus, and to most of the writers on Natural History who lived prior to that great Naturalist, is quite certain; yet at the present day how few are the examples of it to be met with in the collections of Europe! It is undoubtedly a native of Surinam and the neighbouring continental states; and it is very surprising that so ornamental and well-marked a species should not have more frequently attracted the collector's notice, and been sent home in abundance. Judging from the specimens I have had opportunities of examining, there would appear to be little difference in the colouring of the sexes. In its form and structure, this species offers, in my opinion, considerable affinity to the members of the genus *Glaucis*, which also tenant the same regions, and display very similar habits.

M. Bourcier tells me that it has also been sent from British Guiana, but that it rarely occurs in collections from Cayenne.

Head, all the upper surface, upper wing-coverts, two central tail-feathers, sides of the neck, breast and flanks, shining olive-green; wings purplish brown; lateral tail-feathers white, stained on the apical half of the outer margin and the tip of the outer feather with dark brown; a crescent of the same, but of a much paler hue at the tip of the next; a still fainter mark of the same colour near the tip of the external web of the third, and a nearly obsolete mark of a similar tint in the same situation on the fourth; lores and ear-coverts brown; on the chin and throat a lengthened triangular mark of black, bounded on either side by a narrow line of greyish white, and below by a broad band of deep sandy buff crossing the throat; centre of the abdomen greyish buff; under tail-coverts olive, narrowly edged with greyish buff; bill black, with the cutting of the upper mandible and the basal three-fourths of the under one pearly white; feet yellow.

The figures are of the natural size.









THRENETES CERVINICAUDA. *Could.*

## THRENETES CERVINICAUDA, *Gould.*

### Fawn-tailed Barbed-throat.

*Threnetes cervinicauda*, Gould in Proc. of Zool. Soc., part xxii. p. 109.

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How constantly are we receiving novelties from the richly wooded districts bordering the River Napo, and how many fine birds appear to inhabit this luxuriant region!—a zone, as it were, intermediate between the elevated portions of the great Andean ranges and the flat lands of the eastern parts of South America. The present highly interesting bird is from this district. Of the three examples contained in my collection, two are tolerably perfect, the third is minus the tail; still they afford me sufficient materials to enable me to give a correct delineation of the species.

Every ornithologist who has paid attention to the *Trochilidæ* will see that this new bird is very closely allied to the *Threnetes leucurus*, but that it differs in its much larger size, in the colouring of the tail, and in the rich hue of its throat-mark.

Head, all the upper surface, upper wing-coverts, two central tail-feathers, sides of the neck, breast, and flanks shining olive-green; wings purplish brown; lateral tail-feathers deep fawn-colour, stained on the apical half of the outer margin and the tip of the outer feather with dark brown; a crescent of the same, but of a much paler hue, at the tip of the next; a still fainter mark of the same colour near the tip of the external web of the third; and a nearly obsolete mark of a similar tint, in the same situation, on the fourth; lores and ear-coverts brown; on the chin and throat a lengthened triangular mark of black, bounded on either side by a narrow line of greyish white, and below by a broad band of deep sandy-buff crossing the throat; centre of the abdomen greyish buff; under tail-coverts olive, narrowly edged with greyish buff; bill black, with the cutting edge of the upper mandible and the basal three-fourths of the under one pearly white; feet yellow.

The figures are of the size of life. The plant is the *Echites Franciscea*, var. *floribus sulphureis*.











## THRENETES ANTONIÆ.

### Sooty Barbed-throat.

*Trochilus Antonia*, Bourc. et Muls. in Ann. de la Soc. d'Agr. &c. de Lyon, 1846, p. 329.

*Polytmus Antonia*, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 37.

*Lampornis Antonia*, Bonap. Consp. Gen. Av., p. 72, *Lophornis*, sp. 8.

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ALTHOUGH this species has been long known to ornithologists, it was only in the year 1846 that it received a scientific appellation, M. Bourcier then assigning to it the name of *Antonia* in honour of Madame Antonia Perroud, the wife of a learned entomologist. Since then it has been transferred to the genus *Polytmus* by Mr. G. R. Gray, and to *Lampornis* by the Prince of Canino. That it does not belong to either of those genera, or to any other at present established, is certain, and I have therefore been necessitated to propose a new generic term for it and its near ally *T. leucurus*. The circumstance of its having remained so long undescribed by Lesson and others, who have professed to give complete monographs of this group of birds, is doubtless due to its being unadorned by any brilliant or metallic colouring; its sombre plumage, however, does not, in my opinion, detract from its interest as a species; for in the economy of nature, this dull-coloured bird plays a part of equal consequence with those of its most gaily attired allies.

The native country of the *T. Antonia* is Cayenne, and the neighbouring countries; but the precise extent of its range has not yet been ascertained: I have never seen it from Trinidad or Northern Brazil.

The sexes are very similar in the colouring of their plumage, and I have seen specimens which appear to be immature, which do not materially differ.

The entire plumage both above and beneath of a very dark greenish bronze; wings dark purplish brown; central tail-feathers greenish bronze; lateral feathers purplish brown, glossed at the base with greenish bronze; bill brownish black; feet light yellow.

The Plate represents two examples of the natural size. The plant is a species of *Stiffia*, common in the country where the bird is found.









PHOTOGRAPH BY J. W. B. WILSON

## PHAËTHORNIS EURYNOME.

### Eurynome Hermit.

*Trochilus Eurynome*, Less. Troch., p. 91. pl. 31.

——— *Eurynomus*, Jard. Nat. Lib. Humming Birds, vol. ii. p. 121. pl. 28.

*Phæornis eurynomus*, Gray and Mitch. Gen. of Birds, *Phæornis*, sp. 5.

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WHEN M. Lesson published his “Trochilidées” in 1831, he had only seen two examples of this elegant species, one in the possession of M. Bévalet, and the other in the collection of M. Longuemare; since that period so many have been sent from Rio de Janeiro, that it is evident the bird must be very abundant in that part of Brazil. I have examined at least a hundred specimens of different ages and sexes, all of which were very similar, the females merely differing from the males in being of a smaller size: among those in my possession, however, are two specimens clothed in the usual style of plumage, but having a rich pink tint pervading the lower part of the abdomen, deepening in one of them to a reddish hue; the feet have also evidently been of the same colour: in the absence of all data respecting this singular state of colouring, I am induced to believe it to be attributable to some peculiar and at present unknown cause, rather than an indication that these individuals belong to a distinct species.

Head dark blackish brown, each feather margined with reddish, which is more apparent in some specimens than others; back of the neck, wing-coverts, and upper surface dark green, with a slight golden reflexion, all the feathers scaled with brown, particularly on the upper tail-coverts; wings purplish brown; basal portion of the tail of the same colour as the back, but deepening into black towards the tips of the lateral feathers and the middle of the two central ones, the lateral feathers with a mark of white at their tips resembling the letter V; apical half of the central feathers white; over the eye a broad stripe of reddish buff; over the ear-coverts a large patch of black; from the angle of the beak on either side is a streak of buff; feathers of the throat brownish black, margined with buff; all the under surface greyish brown, assuming a sooty hue on the breast, and washed with buff on the vent and under tail-coverts; upper mandible and tip of the lower one black, basal three-fourths of the latter orange; feet brownish yellow.

Total length,  $6\frac{1}{2}$  inches; bill,  $1\frac{3}{16}$ ; wing,  $2\frac{1}{2}$ ; tail,  $2\frac{5}{8}$ ; tarsus,  $\frac{3}{16}$ .

The above is the average admeasurement of several males; the females assimilate to the males in the style of their colouring, but are of a much smaller size, and the young assume the adult colouring from the nest.

All the nests I have seen have been attached to the pendent leaves of palms and other trees growing in the neighbourhood of water or in humid situations, and the ingenuity with which these little birds attach their nests with cobwebs and other slight materials to the leaves is truly wonderful: the beautiful nest represented is formed of the most delicate tendrils and roots of trees; it is a somewhat shallow and frail structure, lengthened into a point below. I believe that the eggs, which are white, are generally two in number.

The figures are all of the natural size.









PHAETHORNIS SUPERCILIOSUS.

*J. Gould and H. C. Richter, del. et lith.*

*Hallman del. & Wallen. Imp.*

## PHAËTHORNIS SUPERCILIOSUS.

Cayenne Hermit.

- Trochilus superciliosus*, Linn. Syst. Nat., tom. i. p. 189.—Ib. Gmel. Edit., tom. i. p. 485.—Shaw, Gen. Zool., vol. viii. p. 284.—Vieill. Ency. Méth. Orn., part ii. p. 549. pl. 129. fig. 2.—Dumont, Dict. Sci. Nat., tom. x. p. 46.—Drapiez, Dict. Class. d'Hist. Nat., tom. iv. p. 317.—Less. Hist. Nat. des Col., p. 35. pl. 6.—Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xiv.—Ib. Traité d'Orn., p. 288.—Jard. Nat. Lib., Humming-birds, vol. ii. p. 119. pls. 26, 27.—Steph. Cont. of Shaw's Gen. Zool., vol. xiv. p. 241.—Prince Max. Beit. zur Naturg. von Bras., p. 116.
- Polytmus Cayennensis longicaudus*, Briss. Orn., tom. iii. p. 686. pl. xxxv. fig. 5.
- Le Brin blanc*, Buff. Hist. Nat. des Ois., tom. vi. p. 46.—Vieill. Ois. Dor., pp. 37, 38, 39. pls. 17, 18, 19.
- Colibri à longue queue de Cayenne*, Buff. Pl. Enl. 600. fig. 3.
- Phaetornis superciliosus*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phaetornis*, sp. 1.—Bonap. Rev. et Mag. de Zool. 1854, p. 249.
- Phaëtornis superciliosus*, Bonap. Consp. Gen. Av., p. 67, *Phaëtornis*, sp. 1.
- Phaëthornis superciliosus*, Reichenb. Aufz. der Colibris, p. 14.
- Supercilious Humming-bird*, Lath. Gen. Syn., vol. ii. p. 747.—Shaw, Gen. Zool., vol. viii. p. 234.—Lath. Gen. Hist., vol. iv. p. 293.

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LESSON has given a tolerably good figure of this species in the fourth plate of his "Histoire Naturelle des Colibris," while the figure in the next plate, which he states to be the female, has reference not only to another species, but to one pertaining to a distinct form, to which the generic appellation of *Glaucis* has been given: it represents, in fact, either the young of *G. hirsutus* or *G. Mazepa*, as is shown by the concentric marks on the back, and the pointed white tips of the tail-feathers. It is surprising that Lesson should have thus erred, for had he studied the members of the genus *Phaëthornis* even but superficially, he must have observed that no difference occurs in the colouring of the sexes, and that the young assume the livery and the same form of tail as the adults from the earliest age.

The *Phaëthornis superciliosus* appears to have been known to Linnæus and most of the older writers. It is one of the commonest species of the genus, examples having been sent to Europe for at least the last hundred years. Its native countries are Guiana, Cayenne, and Surinam; its range is known to extend towards Brazil as far as the confluence of the Amazon, but, I believe, does not advance farther south than Bahia, which Mr. Reeves informs me is one of the provinces in which it is found. It is believed that the sexes differ little in colour, but that in size the female is a trifle smaller than her mate.

The term *superciliosus* applied to this species is by no means an appropriate or distinctive appellation, all the species of the genus being similarly marked; but a name once applied cannot be changed.

Head, upper surface and wing-coverts bronzy brown, darkest on the head; lores and ear-coverts blackish brown, bounded above and below by stripes of buff; wings dark purplish brown; rump and upper tail-coverts barred with bronze and brown; lateral tail-feathers bronzy green at the base, the apical portion blackish brown, with an arrow-head-shaped mark of buff at the tip; two centre tail-feathers bronzy green at the base, blackish brown for the second third of their length, the prolonged or apical third white, gradually blending with the dark hue of the middle portion; under surface dusky fawn-colour, clouded with dark brown approaching to black on the throat; under tail-coverts buff; upper mandible black; the basal three-fourths of the under mandible fleshy red, the tip black.

The figures are of the size of life. The plant is the *Astrocaryum rostratum*.









PHAETHORNIS FRATERCULUS, Gould

## PHAËTHORNIS FRATERCULUS, *Gould.*

Allied Hermit.

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IN figuring this bird in the present monograph, I do not insist that it is a new species, or that it is by any means rare ; on the contrary, scarcely a single collection arrives from Cayenne and the neighbouring countries which does not comprise examples of it. Still I cannot find that it has been described ; and that it has not been is also the opinion of M. Bourcier, of Paris ; and the only question in our minds is whether it can possibly be the female, or one or other sex of the *P. malaris* (*P. superciliosus* of this work). If this should ultimately prove to be the case, a similar disparity in the size of the sexes does not occur in any other species. Having said thus much, I leave the investigation of the subject to those ornithologists who may hereafter write on the subject, or to those who may have opportunities for observing the bird in a state of nature.

I ought to mention that, besides the great difference in size, the *P. fraterculus* differs in having a somewhat more curved bill than *P. malaris*.

Crown of the head greyish brown ; upper surface and wing-coverts bronzy green ; lower part of the back and upper tail-coverts paler and with a crescent of deep brown near the tip of each feather ; above and below the eye a stripe of yellowish buff ; the interspace, or ear-coverts and lores, brownish black ; wings purplish brown ; throat grey with a stripe of light buff down the centre ; the under surface clouded in some specimens with grey ; sides of the neck and under tail-coverts pale buffy white ; tail-feathers glaucous green at the base, brownish black in the middle and tipped with an arrow-head-shaped mark of white ; the apical half of the two middle feathers white ; upper mandible and tip of the under mandible black, the remaining portion of the latter being yellowish or flesh-colour ; feet yellowish brown.

The figures are of the size of life. The plant is the *Angræcum funale*.









PHAETHORNIS CEPHALUS.

## PHAËTHORNIS CEPHALUS.

### Mexican Hermit.

*Trochilus cephalus*, Bourc. et Muls. Rev. Zool. 1848, p. 269.—Gray and Mitch. Gen. of Birds, vol. iii. Supp. App. 30 *a.*, App. to vol. i. p. 103.

———— *longirostris*, De Latt. Echo du Monde Savant, June 15, 1843, No. 45. col. 1070?

*Phæthornis cephalus*, Bonap. Rev. et Mag. de Zool. 1854, p. 249.

*Ptyonornis cephalus*, Reichenb. Aufz. der Colibris, p. 14.

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THE occurrence of this bird in Veragua, Guatemala and Mexico proves that the larger *Phæthorni* are not confined to the countries south of the Isthmus, but, like many other forms, are represented in Central America by species peculiar to that part of the continent.

The *Phæthornis cephalus* was first brought to this country by M. Sallé, the celebrated French traveller and collector; the single specimen he first procured, and from which M. Bourcier took his description, was for a long time the only one known; it is now in my own collection. This example bears a label purporting that it was killed by M. Sallé on the “Rivière San Juan de Nicaragua.” Besides this original specimen, I possess others which were transmitted to me direct from Guatemala by George U. Skinner, Esq., and have more recently acquired others which were collected by M. Sallé near, I believe, Cordova in Southern Mexico.

I observe that some variation exists in the colouring of the tips of the outer tail-feathers, attributable, I believe, to a difference in the age of the individuals. In the original or typical specimen, the tips of all the tail-feathers, except those of the two middle ones, are of a uniform buff, while in others this buffy colouring occupies only the inner margins of the feathers, the outer margins being white, and in others again both margins are white. In size the *P. cephalus* nearly equals the *P. superciliosus*, but it differs from that species in having a shorter and more curved bill and a shorter and more rounded tail; the four external feathers on each side being individually less acutely pointed; the crown of the head in *P. cephalus* is also darker, the rump-feathers more buffy, and the colouring of the under surface of a lighter or more uniform buff than in *P. superciliosus*.

It has been considered probable by one or two ornithological friends that a bird described by M. De Lattre in the “Echo du Monde Savant” for June 1843, under the name of *Trochilus longirostris*, may be identical with the present species, in which case his name would have the priority; but it could scarcely be retained with propriety, that appellation having been bestowed upon another member of the family.

Head greyish brown; upper surface and wing-coverts bronzy brown; lower part of the back and upper tail-coverts buff, barred with blackish brown; wings purplish brown; lores and ear-coverts blackish brown, bounded above and below by stripes of buffy white; under surface light greyish buff; down the centre of the throat a line of pure buff, bounded on either side by a clouding of grey; all the tail-feathers bronzy green at the base, passing into brownish black, the lateral feathers with an arrow-head-shaped mark of buff at the tip; the apical or lengthened portion of the two middle feathers white, gradually blending with the dark hue of their middle portion; upper mandible black; basal three-fourths of the under mandible fleshy, the tip black.

The figures are the size of life. The plant is the *Brassavola lineata*.









PHAETHORNIS SYRMATOPHORUS, Gould.

## PHAËTHORNIS SYRMATOPHORUS, *Gould.*

### Train-bearing Hermit.

*Phaëthornis Syrmatophorus*, Gould in *Jard. Orn. Cont.*, 1851.

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I AM indebted to Professor Jameson of Quito for several examples of this new species of *Phaëthornis*, which had been procured in the neighbourhood of that city. In all probability, the eastern portions of Peru, from the Equator to Bolivia, are the true and proper habitat of the bird. Certain it is, that I have never seen examples from any part of Columbia, which tends to strengthen this supposition. The species to which it seems to be most nearly allied is the *P. Eurynome*; but it differs from that and every other I have seen in several particulars, namely in the rich buffy hue which pervades the lower part of the abdomen and the under tail-coverts; in the zone of rich buff which occupies the lower part of the back and the upper tail-coverts; in the lateral tail-feathers being very short, and largely tipped with buff; in the two central tail-feathers being very long, much broader and of a looser texture; and moreover, having their apical halves pure white, which renders them very conspicuous, and has suggested the specific name of *Syrmatophorus* or Train-bearer.

Mr. Bridges brought from Bolivia a single specimen of a bird so closely resembling this species in general appearance, that I am inclined to think it may be a female of the present bird, the chief differences being its smaller size, and the somewhat narrower form of the apical halves of the central tail-feathers: it may, however, prove to be distinct.

Crown of the head and back of the neck dark brown, most of the feathers narrowly edged with buff; back and shoulders bronzy green, with crescentic bands of buff; rump and upper tail-coverts rich buff, forming a conspicuous mark; chin white; a buffy-white mark surmounts the eye, and extends backward down the sides of the neck; chest, abdomen, and under tail-coverts rich buff; basal half of the two central tail-feathers black on the edges, and green in the centre; their apical half white; lateral feathers greyish black, largely tipped with buff; wings purplish brown; upper mandible blackish brown; under mandible orange-red; feet brown.

The figures are of the natural size. The beautiful plant is the *Rondeletia versicolor*.









PHAETHORNIS PHILIPPI.

*Stoddard and H. C. Fitch del. et lith.*

*Hutton and A. Walton. Col.*

# PHAËTHORNIS PHILIPPI.

## De Filippi's Hermit.

*Trochilus Philippii*, Bourc. Ann. de la Soc. Sci. de Lyon, 1847, p. 623.

——— *De Filippii*, Bourc. Rev. Zool. 1847, p. 401.

*Phætornis Philippii*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phætornis*, sp. 18.

*Phaëtornis philippii*, Bonap. Consp. Gen. Av., p. 68, *Paëtornis*, sp. 18.

*Orthornis defilippii*, Bonap. Rev. et Mag. de Zool. 1854, p. 249.

*Ametrornis De Filippii*, Reichenb. Aufz. der Colibris, p. 14.

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I AM indebted for many favours to M. Bourcier, the great Trochilidist of France, who has paid more attention to the Humming Birds than any other person on the Continent. In his Collection there are some unique species, and this, which is one of them, has been kindly transmitted to me by that gentleman for the purpose of being figured in the present work. It is a well-marked and very distinct species, differing from all the other members of the genus *Phaëthornis* in its rather long and almost straight bill; in the four lateral tail-feathers on each side being very conspicuously tipped with chestnut-red, and offering a great contrast to the tips of the two central feathers, which are terminated with white. In the rufous colouring of its upper and under tail-coverts it also differs from most of its congeners. I am unable to say in what part of South America this bird was procured, and I believe that M. Bourcier is equally unaware of its proper habitat. Dr. Reichenbach states that it is from Bolivia, on what authority I know not. Here then we have further evidence that our knowledge of the *Trochilidæ* is still very incomplete, the single example of this species here represented being, so far as I am aware, the only one yet sent to Europe. M. Bourcier has named it after Dr. De Filippi, Professor of Zoology in the University of Milan.

Head, upper surface and wing-coverts bronzy green, slightly tinged with brown; upper tail-coverts bronzy brown, largely tipped with rufous; four lateral tail-feathers largely tipped with rufous, below this a zone of brownish black, their basal portions bronzy green; the two middle feathers are brownish black for about two-thirds of their length from their base, the apical third being white; wings purplish brown; all the under surface, from the chin to the vent, and the under tail-coverts rich reddish buff; upper mandible brownish black; under mandible, except the extreme tip, straw- or perhaps flesh-colour; feet light brown.

The figures are of the natural size.









PHLAETHORNIS HISPIDUS, *Gould.*

## PHAËTHORNIS HISPIDUS, *Gould.*

### Hairy Hermit.

*Trochilus* (——?) *hispidus*, Gould in Proc. of Zool. Soc., Part XIV. p. 90.

*Phætornis hispidus*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phætornis*, sp. 14.

*Phaëtornis hispidus*, Bonap. Consp. Gen. Av., p. 68, *Phaëtornis*, sp. 14.

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THE present elegant and well-defined species is a native of Bolivia, whence it was brought to this country by Mr. Bridges, who, to my regret, was unable to give me any account of its habits or economy; the shortness of his stay in the district in which it was procured, having prevented him from devoting any time to their investigation: they are doubtless very similar to those of the other *Phaëthorni*.

The grey colouring of its under surface, with a crescent of brown near the tip of each feather, renders it conspicuously different from every other member of the genus; the largely developed hair-like buffy grey tail-coverts also constitute a character which does not occur in any other species.

All the upper surface bronzy brown; ear-coverts dark brown, bordered above and below with a line of buff; under surface brownish grey, with broad stripes of white down the throat; those of the chest with a crescentic mark of brown near the tip; tail greenish brown; the lateral feathers slightly, and the central ones largely tipped with white; wings brown; bill black, except the basal half of the lower mandible which is straw-colour.

The figures in the accompanying Plate are of the natural size; and, as they are accurate representations of nature, will give a better idea of the bird than any written description, however accurate.

The plant is the *Saurauja spectabilis*.









PHAETHORNIS OSERYI.

# PHAËTHORNIS OSERYI.

## D'Osery's Hermit.

*Trochilus Oseryi*, Bourc. et Muls. in Ann. Sci. Phys. &c. de Lyon, May 7, 1852.

*Ametrornis Oseryi*, Reich. Auf. der Col., p. 14.

*Orthornis oseryi*, Bonap. Rev. Zool. 1854, p. 249.

*Phaethornis villosus*, Lawr. in Ann. Lyc. Nat. Hist. New York, vol. vi. p. 259.

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WHAT could have induced the late Prince Charles Bonaparte and Dr. Reichenbach to separate this bird generically from the genus *Phaëthornis* I know not. Certain it is that nothing could be more fallacious, or better calculated to bring science into contempt. No excuse can, indeed, be offered for their so doing, since I believe that neither of them could have personally examined the bird, but that they proposed their generic titles from the mere descriptions of the species: had they ever seen it, they would have compared it with my *P. hispidus*, and perhaps questioned if the two species were not one and the same; instead of which they have made *hispidus* generically distinct, under the name of *Ptyonornis*,—at least, Dr. Reichenbach has done so. It is such measures as these which give the monographer so much trouble in unravelling the confusion they have made, and impose upon him the unpleasant task of pointing out such gross errors. I should not have spoken thus strongly on the subject had there been the slightest perceptible difference in form between this bird, the *P. superciliosus*, *P. Eurynome*, and other species which these authors admit are typical *Phaëthorni*. For the separation of the smaller members of the genus under the subgeneric title of *Pygmornis* proposed by Bonaparte, and *Eremita* by Reichenbach, some excuse may be made, those little birds forming a very natural subdivision, although, as will be seen, I have retained them all under the generic name of *Phaëthornis*. We now come to more important points with regard to this species—the country it inhabits, and whether it be or be not identical with *P. hispidus*, a name published six years prior to that of *Oseryi*.

The native habitat of Osery's Hermit is that portion of the Andes lying between Bogota and Ecuador. I have specimens from both these countries now lying before me,—one received in an ordinary collection from Santa Fé, and another from Archidona through the kindness of Professor Jameson. I am also indebted to Mr. Lawrence of New York for another example, which was collected by Mr. Moore in Ecuador. Mr. Lawrence, on comparing his specimens with my Plate of *P. hispidus*, came to the conclusion that they were distinct from that species, and being unaware that the bird had been described in Europe under the name of *Oseryi*, proposed for it the specific term of *villosus*. I agree with Mr. Lawrence that there are sufficient grounds for considering it distinct from the *P. hispidus*, that bird being of a larger size, and having the feathers of the throat of greater length and more distinctly margined with grey, while the lengthened greyish-white throat-mark seen in all my specimens of *Oseryi* is wanting in *hispidus*. This latter species also inhabits a different country, being, so far as we yet know, only found in the southern country of Bolivia, where it doubtless represents the *Oseryi* of more northern latitudes.

M. Bourcier has dedicated this species to the Count d'Osery, the unfortunate "compagnon de voyage" of the Count de Castelnau.

Head, upper surface and wing-coverts bronzy green, browner on the head; ear-coverts dark brown, bordered above and below with a line of greyish white; upper tail-coverts bronzy green, with a crescentic mark of blackish brown near the end, and tipped with grey; tail very dark green at the base for half its length, and as far as this colour extends the shafts are white, except those of the two central feathers, which are dark; the remainder of the tail is brownish black, the lateral feathers narrowly edged with greyish white on their inner webs near the end, and a broader mark of white on the edge of the outer webs, the projecting ends of the central feathers gradually fading into white; throat and breast ashy brown, intermixed with greyish white, presenting a rough shaggy appearance; there is also a white line running down the centre of the throat to the breast; abdomen greyish white; under tail-coverts ashy brown with grey margins; wings purplish brown; upper mandible and point of the lower mandible black, the basal portion of the latter yellow; irides black; feet yellowish.

The figures are of the size of life. The plant is the *Anguloa uniflora*.









PHAETHORNIS ANTHOPHILUS.

*J Gould and H C Richter del et lith*

*Handman del & Waller imp*

## PHAËTHORNIS ANTHOPHILUS.

Pallid Hermit.

*Trochilus Anthophilus*, Bourc. Rev. Zool. 1843, p. 71.—Ib. Ann. des Sci. Phys. &c. de Lyon, tom. vi. p. 47.

*Phætornis anthophilus*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phætornis*, sp. 15.—Bonap. Consp. Troch. in Rev. et Mag. de Zool. 1854, p. 249.

*Phaëtornis anthophilus*, Bonap. Consp. Gen. Av., p. 68, *Phaëtornis*, sp. 16.

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THIS somewhat rare species of *Phaëthornis*, described for the first time by M. Bourcier under the above name, is a native of Columbia, a fact which has been ascertained by my having received several specimens direct from Bogota: I mention this particularly, because, at the time M. Bourcier characterized the species, he appears not to have been aware of its true habitat.

In size this species is intermediate between *Phaëthornis Eurynome* and *P. Bourcieri*. The form of its outspread tail is somewhat peculiar; the feathers not being regularly graduated like those of *P. Pretrei* and *P. Augusti*, but forming a complete semicircle with the two lengthened middle feathers projecting from the centre.

The sexes are alike in colour.

Crown of the head dark greyish brown; upper surface green slightly tinged with bronze; wings purplish brown; tail pale green clouded with black near the extremity, and fringed with an arrow-head-shaped mark of greyish white at the tip, the prolonged extremity of the two centre feathers being entirely greyish white; above and behind the eye a streak of light buff; ear-coverts brownish black; throat and under surface pale greyish white, tinged with buff on the flanks; lower part of the abdomen and under tail-coverts, centre of the chin and throat obscurely streaked with brownish black; upper mandible black; under mandible yellow except at the tip, which is black.

The figures are of the natural size.









PHAETHORNIS BOURCIERI.

## PHAËTHORNIS BOURCIERI.

Bourcier's Hermit.

*Trochilus Bourcieri*, Less. Les Troch., p. 62. pl. 18.

*Phætornis Bourcieri*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phætornis*, sp. 9.

*Phaëtornis bourcieri*, Bonap. Consp. Gen. Av., p. 67, *Phaëtornis*, sp. 9.

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I BELIEVE Cayenne to be the native country of this species of *Phaëthornis*, which, although assimilating in colour to many of its allies, may be readily distinguished by the nearly straight form of its bill and by the almost uniform greyish white tint of the throat and under surface; in size it is much smaller than *P. superciliosus* or *P. Eurynome*.

M. Lesson has named this pretty species *Bourcieri*, in honour of a gentleman whose collection of the Trochilidæ is the most celebrated and complete on the Continent; whose devotion to the subject is so well known, and who, by his researches while Consul for the French Government at Quito, has contributed so largely to our knowledge of this lovely group of birds.

The sexes are alike in plumage, but the female is smaller than the male.

Head, upper surface and wing-coverts bronzy green; wings purplish brown; tail-coverts bronzy green, with a crescent of brown near the extremity, and tipped with buff; tail bronzy green, deepening into black on the middle of the feathers and on the extremity of their inner webs; the tip of the outer web buff, and the extreme end of the inner web fringed with whitish; the lengthened and narrower portion of the two central feathers brownish black, gradually passing into the white of their apices; under surface greyish buff, palest on the throat, abdomen and under tail-coverts, and clouded with dusky on the flanks; upper mandible dark brown; under mandible straw-yellow, except at the point, where it becomes of a dark brown hue; feet yellowish brown.

In young birds the feathers of the upper surface are fringed with rufous.

The front figure is of the natural size.









PHAETHORNIS GUY.

## PHAËTHORNIS GUY.

### Guy's Hermit.

*Trochilus Guy*, Less. Les Troch., p. 119. pl. 44.

*Phætornis Guy*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phætornis*, sp. 6.

*Phaëtornis Guy*, Bonap. Consp. Gen. Av., p. 67, *Phaëtornis*, sp. 6.

*Trochilus apicalis*, Licht. in Mus. Berlin.—Tsch. Consp. Av., No. 199.—Ib. Faun. Peruana, p. 243.

*Phætornis apicalis*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phætornis*, sp. 17.

*Phaëtornis apicalis*, Bonap. Consp. Gen. Av., p. 68, *Phaëtornis*, sp. 17.

*Trochilus Emilæ*, Bourc. Ann. de la Soc. d'Agr. Hist. Nat. etc. de Lyon, 1846, p. 317?

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A LENGTHENED, but well-proportioned form, with wings and tail in every way in unison, renders this species of *Phaëthornis* one of the most elegant members of the genus yet discovered. At the same time, the changes of plumage, to which it appears to be subjected, are both numerous and perplexing; some specimens having the head much browner than others, the stripes down the throat more rufous, and the sides of the throat more extensively glossed with green: considerable difference occurs also in the form and colouring of the tail, some having the apical half of the lateral feathers nearly uniform black, and of a somewhat short and rounded form, with the prolonged portion of the central feathers very narrow; while in others, the lateral feathers are margined with white, and have the prolonged portion of the central tail-feathers broader and longer.

M. Bourcier has characterized a bird, the description of which closely accords with that of the specimens with the black tail, under the name of *T. Emilæ*; but I possess numerous examples, intermediate in every respect between the states above described; and I am, therefore, inclined to think that his bird is only one of the states of the present species: still his view may be the correct one, and a further acquaintance with the subject may convince me that such is the case; but at present it appears to me that his *T. Emilæ* is identical with *P. Guy*.

In the present state of uncertainty I am unable to say if any sexual differences of colour really exist, and it is, therefore, a subject to which I would particularly direct the attention of those who, residing in the country, may have opportunities for determining this point by actual dissection.

The habitat of *P. Guy* is Cayenne, La Trinité, Venezuela, and Santa Fé de Bogota, over which countries it is very generally dispersed.

Upper surface and wing-coverts glossy green; the feathers of the head inclining to brown, and narrowly edged with deep dull rufous; wings purple brown; upper tail-coverts glaucous green, with a crescent of black, and another of white at the tip; lores and ear-coverts blackish brown; a stripe above and behind the eye, another from the gape, and a third down the centre of the throat, deep buff; under surface ashy grey, glossed with green on the flanks, and passing into buff on the vent; tail-feathers glaucous green at the base, and black for the remainder of their length, the central ones largely tipped, and the lateral ones fringed on the outer portion of their tips with white; under tail-coverts greyish white, with darker centres; upper mandible and tip of the lower mandible black; basal two-thirds of the lower mandible fleshy red; feet brown.

The figures are of the natural size.









PHAETHORNIS YARUGUI.

## PHAËTHORNIS YARUQUI.

### Yaruquian Hermit.

*Trochilus Yaruqui*, Bourc., Compte Rendu de l'Acad. des Sci., tom. xxxii. p. 187.

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THIS fine new species of *Phaëthornis* is a native of the temperate regions of Ecuador, whence several examples were brought to Europe by M. Bourcier; and my own collection has been enriched by some fine specimens transmitted to me from Quito by Professor Jameson. It appears to be very common in the neighbourhood of the city, and particularly in the valley of Yaruqui, in which the French Academicians in 1742 placed the point from whence they measured an arc of the meridian, and where it dwells amidst the small bushes skirting the forest, but appears to give a preference to the shady parts of the woods bordering the warmer plains, where it seeks its insect food among the Orchids and other flowering plants growing in such situations. Its flight is described as being gentle, and its disposition as very tame. Its broad and nearly uniform steel-black tail at once distinguishes it from *Phaëthornis Guy*, to which it is nearly allied. Like that bird, it is subject to considerable variation in the form of the tail, that organ being much more lengthened in some instances than in others; the longer tailed specimens also have the lateral feathers fringed, and the two central ones extensively tipped with white. That the birds in this state are immature, is shown by the brown crescentic marks on the feathers of the back of the head and upper surface, which are entirely absent in those having the shorter and more rounded form of tail, with the lateral feathers of a uniform colour. The central tail-feathers are always broader and much more obtusely pointed than those of *P. Guy*. In some specimens we find a deep rufous mark, commencing above and behind the eye to the nape; a second fainter line from the gape down the side of the neck, and a third occupying the centre of the throat, as in *P. Guy*; but these marks do not occur in very old birds.

Head bronzy brown; upper and under surface and wing-coverts shining green; wings dark purplish black; upper tail-coverts green, with a crescent of black, and another of white at the tip; tail bluish black; the two central feathers tipped with white, and the next on each side with a small speck of white at the tip; under tail-coverts white, with a streak of black near the tip of each feather; upper and point of the lower mandible black; basal two-thirds of the lower mandible fleshy red; feet yellowish brown.

In the immature state, the colouring of the upper surface is interrupted by crescentic marks of brown; the central tail-feathers are more largely tipped, and the lateral ones are fringed at their ends with white; there is a deep buffy mark above, and a paler one beneath the eye, and a small mark of white on the chin.

The figures are of the natural size, on the *Macleania angulata*.









PHAETHORNIS PRETREI.

## PHAËTHORNIS PRETREI.

### Pretre's Hermit.

*Trochilus Pretrei*, De Latt. et Less. Rev. Zool. 1839, p. 20.

*Phaetornis Pretrei*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phaetornis*, sp. 16. pl. xxxv.

*Phaetornis pretrii*, Bonap. Consp. Gen. Av., p. 68, *Phaetornis*, sp. 15.—Bonap. Consp. Troch. in Rev. et Mag. de Zool. 1854, p. 249.

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NOTWITHSTANDING the total absence of any metallic or lustrous colouring in this species, it is recommended to our notice by the extreme elegance of its form and by the strongly-contrasted markings of its tail. Of its history and appearance when flying in its native forests, nothing has yet I believe been recorded; we may, however, justly conclude that it is a most conspicuous object when on the wing, its sombre tints presenting a marked contrast to the vivid green of the surrounding vegetation. The virgin forests of Brazil, from the mouth of the Amazon to Bahia, are the situations whence we receive the greater part of our specimens; but it is said that it inhabits districts still farther south, and even flies in Minas-Geraes. I have never seen it in collections from the neighbourhood of Rio de Janeiro, and I believe it never occurs in that province. It may be ranked among the largest species of the *Phaëthorni*, and also among the most conspicuously-marked species of the genus.

I apprehend that the colouring of the under mandible is extremely evanescent, as in most of the specimens received in this country, the red has given place to a lighter colour, and in some instances to yellow; I have, however, specimens of recently-killed individuals in which the blood-red colouring is perfectly preserved, and in this state I have figured it. It is possible that at the period just prior to the season of reproduction this fiery hue may be much heightened, and that at other times a yellow tint may prevail.

Among the numerous specimens in my collection I can trace no marked difference in the sexes, except that of size; the female, as is the case I believe with all the other members of the genus, being somewhat the smallest.

All the upper surface rich bronze, becoming of a browner hue on the head; wings purple-brown; upper tail-coverts rust-red; two centre tail-feathers rich bronze, largely tipped with white, the basal portion of which is clouded with black; lateral tail-feathers bronze at the base, then crossed diagonally with black and tipped with white, the white extending farther towards the base on the outer than on the inner web; stripes above and below the eye buff; lores and ear-coverts black; under surface deep fawn colour with a lighter streak down the throat; upper mandible and apical fourth of the under mandible black; the basal three-fourths of the under mandible blood-red.

The figures are of the natural size.









PHAETHORNIS AUGUSTI.

## PHAËTHORNIS AUGUSTI.

Sallé's Hermit.

*Trochilus Augusti*, Bourc. Ann. des Sci. Phys. &c. de Lyon, tom. x. p. 623.

*Phætornis Augusta*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phætornis*, sp. 19.

———— *augusti*, Bonap. Consp. Troch. in Rev. et Mag. de Zool. 1854, p. 249.

*Phaëtornis augustae*, Bonap. Consp. Gen. Av., p. 68, *Phaëtornis*, sp. 19.

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IN form and general contour the *Phaëthornis Augusti* is so nearly allied to the *P. Pretrei*, that were skeletons of both placed side by side, I apprehend it would be most difficult if not impossible to distinguish one from the other; still I have no doubt as to their specific value, and I am quite sure that no ornithologist would question their being quite distinct. They beautifully represent each other in the countries they respectively inhabit. The present species, *P. Augusti*, is a native of the rich countries of Venezuela and Caraccas. I have never seen it in collections from Bogota, or any of the more elevated regions; we may consequently infer that the forests of the lowland countries I have mentioned constitute its principal if not sole habitat. If the *P. Augusti* and *P. Pretrei* differ at all in size, the former may be considered the smallest; it also differs from its near ally in being rather less beautifully bronzed on the upper surface, in having narrower central tail-feathers, and especially in the hue of the under surface, which is lively grey instead of rich fawn colour, a feature by which it may be at once distinguished. This somewhat rare species was described for the first time by M. Bourcier, in 1847, when it was dedicated by him to M. Auguste Sallé, an enterprising traveller who collected numerous species of the Trochilidæ and other groups of birds during his journeys into the interior of Central America.

As is the case with the other members of the genus, the sexes are alike in plumage, and nearly so in size: figures of both are given on the accompanying Plate. The plant is the *Stemonacanthus macrophyllus*, which is very generally diffused over the northern parts of South America.

Upper surface greyish bronze, becoming more bronzy on the back; upper tail-coverts rust-red; wings purplish brown; central tail-feathers bronze, largely tipped with white and clouded with black at the junction of the two colours; the lateral feathers black at the base, crossed obliquely with black and tipped with white, the extent of the white increasing as the feathers approach the centre, and conspicuously so on those next the two middle ones; stripe above and another below the eye white; lores and ear-coverts black; under surface ashy grey, with a lighter streak down the throat; upper mandible and terminal fourth of the under mandible black; basal three-fourths of the under mandible blood-red.

The figures are of the natural size.









PHAETHORNIS INTERMEDIUS.

*Shufeld and B.C. Richter del et lith.*

*Colony, California, 1900.*

## PHAËTHORNIS INTERMEDIUS.

### Middle-sized Hermit.

*Trochilus intermedius*, Less. Les Troch., p. 65. pl. 19.

*Phætornis intermedius*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phætornis*, sp. 8.

*Phaëtornis intermedius*, Bonap. Consp. Gen. Av., p. 67, *Phaëtornis*, sp. 8.

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THE members of the genus *Phaëthornis* form a distinct and well-marked section of the Trochilidæ, and as the species are very numerous and very widely dispersed, they must play a considerable part in the economy of nature in the portions of the country they frequent; the present bird is an inhabitant of Brazil, to which country I believe it to be solely confined: from the notes of Mr. Reeves I learn that it is very common in all the virgin forests near Rio de Janeiro, and that its habits and economy closely resemble those of *P. Eurynome* and the other members of the genus. It is by no means an attractive species, either in its colouring or in any other particular, and is indeed more sombre in its general appearance than any of its allies.

The only external differences between the sexes consist in the somewhat larger size and bolder style of markings of the male.

General hue of the upper surface bronzy brown, glossed with green on the back and wing-coverts; wings purplish brown; lateral tail-feathers bronzy green deepening into blackish brown near the tip, at which is an arrow-head-shaped mark of white tinged with buff, the buff tinge predominating on the two outer feathers; two central tail-feathers bronzy green for two-thirds of their length, the remaining apical third being white; above the eye a streak of buff; lores and ear-coverts dark brown, beneath which is another stripe of buff; throat dark brown; under surface buff, clouded with olive-brown on the sides of the neck and flanks; upper mandible and tip of the under one blackish brown, basal half of the latter buff; feet yellow or flesh-coloured.

The figures are of the natural size.









PHAETHORNIS LONGUEMAREUS.

## PHAËTHORNIS LONGUEMAREUS.

Longuemare's Hermit.

*Trochilus Longuemareus*, Less. Les Troch., pp. 15, 160. pls. 2, 62.—Ib. Ind. Gen. et Syn. des Ois. du gen. *Trochilus*, p. xv.

*Phætornis Longuemareus*, Gray and Mitch. Gen. of Birds, vol. i. p. 104, *Phætornis*, sp. 11.

*Phaëtornis longuemareus*, Bonap. Consp. Gen. Av., p. 67, *Phaëtornis*, sp. 10.

*Phaëthornis Longuemari*, Reich. Aufz. der Col., p. 14.

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It is believed by M. Bourcier and other continental ornithologists that the *Phaëthornis Longuemareus* and *P. intermedius* of Lesson are one and the same species; nevertheless, without doubting such good authorities, I have figured a well-known, but very different Brazilian bird under the latter title, and reserved the former for the present species; which course I know to be correct, as I possess the identical specimen from which Lesson's figure and description were taken.

So regularly and so gradually do the species of the genus *Phaëthornis* advance both in size and colouring from the smallest to the largest, that it would be difficult to say to which genus of the group, as subdivided by Prince Charles L. Bonaparte, this bird should be assigned: if these subdivisions be generally adopted, it may remain where the Prince has placed it, with the *Pygmornes*, in which case it will be the largest species of that genus.

If any one member of the *Phaëthornes* be more commonly sent to Europe than another, it is the bird here represented, which is a native of Guiana, Cayenne and Trinidad. Mr. William Tucker informs me that in the latter country it frequents shady places among the high woods; and he adds that the sexes are alike in colouring.

Crown of the head greyish-brown; ear-coverts and chin dull black; all the upper surface, wing- and tail-coverts bronzy-brown; wings purplish-brown; under surface, superciliary mark, and stripe from the angle of the mouth buff; under tail-coverts grey; tail bronzy-green at the base, succeeded by bronzy blackish-brown, which gradually fades into grey near the tip of the two central feathers; all the feathers tipped with white; the tips of the lateral ones tinged with buff; upper mandible black; basal two-thirds of the under mandible yellow, the tip black; feet pure yellow.

The Plate represents the birds of the natural size. The plant is the *Neptunia plena*.









PHAETHORNIS AMAURA.

## PHAËTHORNIS AMAURA.

Amaura Hermit.

*Pygmornis Amaura*, Bourc. in Rev. Zool. 1856, p. 552.

*Phaethornis atrimentalis*, Lawr. in Ann. Lyc. Nat. Hist. New York, vol. vi. p. 260.

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My collection contains several examples of this species, all of which were obtained from the upper part of the Rio Negro. On submitting them to the inspection of M. Bourcier, that gentleman immediately recognized them as being the same as his *Pygmornis Amaura*. More recently Mr. Lawrence of New York has favoured me with the loan of the type specimen of his *Phaethornis atrimentalis*, the sight of which enables me to state that it is precisely identical with my own specimens, consequently the name of *atrimentalis* must give place to that of *Amaura*. In its affinities, this species is more closely allied to the bird I have figured under the name of *P. Longuemareus* than to any other; from this, however, it differs in its smaller size, and in the black at the throat being streaked and clouded instead of forming a distinct spot. The two birds are evidently representatives of each other in the respective districts they inhabit; the older-known species frequenting the east, while the newly-discovered one is equally confined to the west.

Crown of the head, all the upper surface, wing and tail-coverts dark bronzy green, the tail-coverts margined with deep rufous; wings purplish brown; tail-feathers bronzy green, passing into brownish green towards the end, and tipped with buffy white; ear-coverts black, bounded above and below with a line of buffy white; chin clouded or streaked with black; under surface rufous, washed with grey on the breast, and becoming much paler on the under tail-coverts; upper mandible and apical half of the lower mandible black, the basal half of the latter being yellow; irides black; feet yellowish white.

The figures are of the natural size. The plant is the *Leucothoe pulchra*.









PHAETHORNIS VIRIDICAUDATA, *Could*

*J. Gould. Anst. H. C. Richter, del. et sculp.*

*Hallman & Watson, Imp.*

## PHAËTHORNIS VIRIDICAUDATA, *Gould.*

Green-tailed Hermit.

*Phaëthornis viridicaudata*, Gould in Proc. of Zool. Soc., part xxv. p. 14.

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It would appear that some of the smaller members of the genus *Phaëthornis* have the lower part of the back and upper tail-coverts buff, while in others those parts are uniform with the upper surface; it is the latter style of colouring which prevails in the bird here figured. Its native country is the interior, and I believe the western parts, of Brazil; but its range may extend to the confines of Peru, for there is a specimen in the Museum at Neuchâtel, procured by Dr. Tschudi, with the name of *pygmæus* of Spix attached to it, which, if not identical with this bird, is most closely allied to it.

As will be seen on reference to the accompanying Plate, the *Phaëthornis viridicaudata* is a very pretty species, rendered conspicuous by the rich colouring of the chest and the rather lengthened form of its tail. The two specimens in my collection are all that have come under my notice, unless the bird procured by Dr. Tschudi should prove to be the same.

Stripe over and behind the eye buff; crown of the head, upper surface and wing-coverts bronzy grass-green, duller on the head; wings purplish brown; tail-feathers bronzy grass-green at the base, passing into dark brown towards the extremity, the central feathers tipped with white, and the remainder with white on the apical portion of the external web; chest reddish buff, becoming paler on the abdomen and vent; an obscure light grey stripe below the eye; upper mandible black; basal two-thirds of the lower mandible yellow, tip black; legs yellow.

The figures are of the natural size. The plant is the *Galipea macrophylla*.









PHAETHORNIS ZONURA, *Coult.*

## PHAËTHORNIS ZONURA, *Gould.*

Southern Hermit.

*Phaëthornis zonura*, Gould in Proc. of Zool. Soc., part xxviii. p. 305.

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THE group of little Hermits to which Bonaparte applied the generic name of *Pygmornis* appear to have representatives in every part of South America; at least species exist in all the hotter and temperate portions of that great country. One of them, *P. Adolphi*, flies to the northward of the Isthmus of Panama and even enters the confines of Mexico; some occur in New Granada and Ecuador; while others, again, inhabit the Guianas, Cayenne, and Brazil. The bird to which I have given the name of *P. zonura* appears to be the southern representative of the genus, since it is an inhabitant of Peru, and, I believe, of Bolivia; for it was in one or other of these countries that M. Warszewicz killed the specimen which graces my collection. I have also a single, much-mutilated specimen from Ecuador, which appears to belong to this species. The *P. zonura* must rank among the larger and more powerful of these little birds; it is more distinctly marked than any of them; and when its tail is outspread in flight, the rich rust colouring of the lower part of the back must present a striking contrast to the deep-black colouring of the tail-feathers. This species is somewhat allied to the *P. griseogularis*; but its great size, and also the characters above alluded to, will serve to distinguish it from that and every other species.

Crown of the head brown; back of the neck, back, and shoulders bronzy green; rump and upper tail-coverts rich reddish buff; all the under surface buff, palest on the throat; three outer tail-feathers on each side black at the base, with rich buffy tips; the fourth feather the same, except at the tip, where the outer half is buff and the inner half white; the two central prolonged feathers black at the base, largely tipped with white; bill black, except the basal half of the lower mandible, which is either yellow or flesh-colour; feet yellow.

Total length  $3\frac{3}{4}$  inches; bill 1; wing  $1\frac{3}{4}$ ; tail  $1\frac{5}{8}$ .

The figures are of the size of life. The plant is the *Pilumna fragrans*.









PHAETHORNIS ADOLPHI, Sallé.

## PHAËTHORNIS ADOLPHI.

Adolph's Hermit.

*Phaëthornis Adolphi*, Bourc.

*Pygmornis Adolphi*, Parzudaki's List of the Trochilidæ.

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THE fact of Central America having a fauna peculiarly its own has been frequently mentioned in the pages of the present work; and so decidedly is this the case, that while it comprises certain species and even genera which do not exist elsewhere, the species there found are generally representatives of others inhabiting South America proper, or that portion of the continent to the southward of Panama. Numerous, however, as are the little *Phaëthornes* inhabiting the latter country, only one has, so far as is yet known, been found in the former—namely the *P. Adolphi*. M. Sallé, while residing at Cordova, during his recent visit to Mexico, collected numerous specimens of this bird, and appears to have subjected them to a careful examination of their internal parts, in order to ascertain the sexes with certainty; and, if reliance can be placed upon his investigations, it would seem that all those with short and rounded tails are males, while the females have the two central feathers more prolonged, and the lateral ones with a dark zone between their bronzy bases and buff tips. Supposing this information to be correct, a highly interesting fact has been ascertained, and one which will form a key as it were to the sexual markings of other allied species, some of which present similar characters; and it becomes necessary, now, to ascertain if the larger members of the genus *Phaëthornis* and those of *Glaucis* are subjected to the same law.

Besides specimens from Cordova, I have received many others from a very different locality, Guatemala, whence at least ten individuals were transmitted to me by George Ure Skinner, Esq.; these, however, had not been subjected to dissection. A locality still farther south may, if I mistake not, be assigned to this bird, Mr. Lawrence of New York having a specimen, collected in Veragua, which I believe to be identical with the present species, and which was procured by Dr. Merritt, the discoverer of the interesting *albocoronata*; the whole of Central America, therefore, from the Isthmus of Panama to Mexico, may be said to be inhabited by this bird. The species to which it is most nearly allied is the *Phaëthornis griseogularis*, from which it differs in its larger size, the still darker and more smoky colouring of the under surface, and the uniform deep olive-green colouring of the tail, the lateral feathers of which are not so largely tipped with buff.

Head, upper surface and wing-coverts dark bronzy-brown; tail-coverts rufous; tail dark bronzy-green tipped with buff, fading into white at the extremity; wings purplish-brown; ear-coverts dark brown; under surface buff, with a wash of grey on the throat and breast; upper mandible and apical half of the lower mandible black; basal half of the latter bright yellow; legs and feet brownish-yellow.

The Plate represents the birds of the natural size.









PHETHORNIS GRISEOGULARIS: Gould

## PHAËTHORNIS GRISEOGULARIS.

Grey-throated Hermit.

*Phaëthornis griseogularis*, Gould in Proc. of Zool. Soc., March 25, 1851.

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THERE is every reason to believe that this species is spread over all the temperate regions of Columbia and Ecuador : I have frequently seen it in collections from Bogota, and I have had it sent direct from Quito by Professor Jameson, who gives 6000 feet as the altitude at which his specimen was procured ; it is a beautiful representative in those regions of the *P. eremita* and *P. pygmæa* of Brazil : it differs from them in its larger size, in the total absence of any crescentic black mark on the chest, and in having the throat clouded with dark grey instead of buff ; the two central tail-feathers are also tipped with greyish white instead of buff, and the shafts of *eremita* and *pygmæa* are buff, while in the present species they are black. My own collection contains numerous examples, as well as the two nests figured on the accompanying Plate : although these nests are alike in form, the materials of which they are constructed are somewhat dissimilar ; one being made of a species of green moss laced together with cobwebs, while the other is composed of a pale brown silky substance, here and there studded with pieces of green moss.

Head, upper surface, and wing-coverts bronzy brown ; upper tail-coverts rufous ; ear-coverts blackish brown ; wings purple-brown ; base of tail dark brown, the apical third of the two central feathers dark grey tipped with white ; the apical third of the next feather on each side grey on the inner web, buff on the outer web and tipped with white ; the three lateral feathers on each side tipped with buff ; under surface sandy buff, with a wash of dull grey down the chin and a crescent of black across the breast ; upper mandible black ; basal two-thirds of the under mandible yellow, apical third blackish brown ; feet yellow.

The figures are of the natural size.









PHAETHORNIS STRIGULARIS, *Coult.*

*J. Coult. and H.C. Richter, del. et lith.*

*Hallman & Wadsworth, Imp.*

## PHAËTHORNIS STRIIGULARIS, *Gould.*

### Stripe-throated Hermit.

*Phaëthornis striigularis*, Gould in Proc. of Zool. Soc. p.

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IN a large collection of bird-skins sent to this country from Bogota in 1852, I discovered three specimens of this new and well-marked species of *Phaëthornis*; these are all I have ever seen, and as I have not been able to obtain any information respecting the bird from collectors, we may reasonably infer that some new district had been visited by the Indians, who procure and skin birds for sale in Bogota, and that by this means we have been made acquainted with a species, the history of which we have yet to learn.

In size the Stripe-throated Hermit exceeds the *P. griseigularis*, and is at once distinguished from that and all the other small species of the genus by its striated grey throat, and by the breadth of the tips of the middle tail-feathers.

I have but little doubt that of the three specimens from Bogota, two are males, as, although similar in colour, they somewhat exceed the third in size; the latter is probably a female.

The beautiful plant figured with the birds was sent to me by Professor Jameson of Quito, who states that it is "a species of *Thibaudia*, or some nearly allied genus, which grows wild on the western declivity of the Andes, at an elevation of between 5000 and 7000 feet. The flowers of this beautiful shrub attract several species of the *Trochilidæ*, particularly the *Phaëthorni*."

Upper surface dark bronzy brown, becoming darker brown on the head, and reddish brown on the rump and upper tail-coverts; wings purple-brown; tail-feathers greenish bronze, the two central ones fading into greyish white; the next on each side fringed on the tip of the outer web with greyish white, the remainder fringed at the extremity of the outer web with buff, and white at the tip; above and behind the eye a streak of buff; throat and chest grey, the former striated with obscure markings of brownish black down the centre; ear-coverts black; abdomen reddish buff; under tail-coverts grey tinged with buff; upper mandible and apical half of the lower mandible black; basal half of the latter yellow.

The figures are of the natural size.









PHIÆTHORNIS OBSCURA, *Could.*

*J. Gould and H. C. Richter, del. et lith.*

*Hallman & Walcott, imp.*

## PHAËTHORNIS OBSCURA, Gould.

### Obscure Hermit.

*Phaëthornis obscura*, Gould in Proc. of Zool. Soc., part xxv. p. 14.

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It can scarcely be supposed but that the great country of Brazil will, from time to time, present us with new species of this group of birds; the great and almost interminable forests, particularly those toward the western frontier, having been but partially traversed, and by no means closely investigated. By the way of Rio de Janeiro, several examples of this new *Phaëthornis* have reached Europe, and at this moment four specimens are before me, two of which belong to my own collection, the other two to that of M. Bourcier of Paris, by whom they have been kindly lent to me for the purposes of the present work: the whole of them were collected in the interior of Brazil.

The *Phaëthornis obscura* differs from all its congeners in its dark, clouded style of colouring, and in the absence of buff on the rump. It belongs to that division of the Hermits to which the name of *Pygmornis* has been given, and which, although I have not adopted this generic appellation, appears to me to constitute a very natural section of the group. If we may judge from what we know of some other members of the genus, the males of this species will have shorter and more rounded tails than the females; but this must be verified by actual dissection before it can be positively affirmed.

Head, upper surface and wing-coverts dark bronzy green; stripe behind the eye buff; wings purplish brown; tail dark bronzy brown, each feather narrowly margined externally and slightly tipped with white; throat smoky black, between which and the eye is a stripe of light buff; chest clouded chestnut or coffee-colour, passing into dark grey on the abdomen, and fading into white on the vent; under tail-coverts greyish white; upper mandible and tip of the lower black; basal three-fourths of the latter yellow.

The figures are of the natural size. The plant is the *Echites Franciscea*.









1. PHAETHORNIS NIGROFrons, Lawr.  
2. PHAETHORNIS EPISCOPUS, Gould.

## PHAËTHORNIS NIGRICINCTUS, *Lawr.*

### Belted Hermit.

*Phaethornis nigrincinctus*, Lawr. in Ann. Lyc. Nat. Hist. New York, vol. vi. p. 260.

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No group of birds requires greater care in discriminating its various members than the little *Phaethorni*, of which there are evidently several very distinct species, but which, from their minute size and their very great similarity of colour, it is most difficult to distinguish the one from the other. These various species are distributed over the wide area extending from Mexico to Peru on the western, and from the Brazils to the Caraccas on the eastern part of the great continent of America. Diminutive as they all are, the present species may be regarded as the very smallest of the group. I have long had a female specimen of this little bird in my possession, sent from the neighbourhood of the Rio Negro by Mr. Wallace, but deferred describing it until I had seen the male: this sex is, I believe, at length before me, having been sent by Mr. Lawrence of New York as the type of his *Phaethornis nigrincinctus*. Both Mr. Lawrence's specimens and my own have very lengthened bills, with the yellow colouring of the under mandible extending almost to the end, in which respect they differ from all the other members of the genus, and especially from the species I have named *P. Episcopus*, but to which they are otherwise most nearly allied. Mr. Lawrence's specimen was collected by Mr. Moore while descending one of the tributaries of the Amazon from Quito to Para: we may therefore infer that the little-known countries of the Upper Amazon are its true habitat.

The male has the upper surface bright bronzy green, browner on the head; upper tail-coverts bright ferruginous; tail bronzed coppery brown, the outer margin of the external feathers, the tips of the two central feathers and the two next pairs on each side greyish white; wings purplish brown; under surface deep rufous, with a broad purplish-black band across the breast; ear-coverts black; above the eye a line of rufous; upper mandible black; lower mandible orange-red, becoming paler towards the extreme end.

The female is coppery bronze above; has the tail-feathers of a more lengthened and cuneate form and largely tipped with buff; the whole of the under surface rich buff; under mandible, with the exception of the extreme tip, yellow.

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## PHAËTHORNIS EPISCOPUS, *Gould.*

### Bishop Hermit.

*Phaethornis Episcopus*, Gould in Proc. of Zool. Soc., part xxv. p. 14.

*The Little Brown Humming-bird*, Edw. Nat. Hist. of Birds, vol. i. p. . pl. 32?

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It will be seen that in this little section of the *Phaethorni* the males of some of the species have their breasts crossed by a distinct patch of lengthened purplish-black plumes, while in others no such mark occurs in either sex: in no instance have I seen this peculiar character carried to so great an extent as in the present bird, which I received direct from Demerara. It differs from the *P. pygmaeus* and the *P. Eremita* in the rich bronzy colouring of its upper surface and in the greater breadth of the black pectoral band, in the bronzy hue of its tail, and in the small size of its wings. There is a little bird figured and described in Edwards's "Natural History," vol. i. pl. 32, said to be from Surinam, which may or may not be the female of this species, and I merely refer to it to show that it had not escaped my attention; at the same time I must observe, that it is impossible to say which species of these little birds it is intended to represent. Besides the male, I possess an example which I consider to be a female of this species, also received from Demerara. They are the only examples I have seen; I would therefore call the attention of persons resident in the fine country of which the species is a native, to the desirability of their sending additional examples to Europe.

The male has the head, upper surface, and wing-coverts rich golden bronze; behind the eye a stripe of buff; wings purplish brown; tail deep bronzy brown at the base, changing into rich brown near the apex, and slightly tipped with grey; rump rufous; ear-coverts black; under surface deep sandy buff, crossed on the breast by a broad band of purplish-black, somewhat elongated plumes; upper mandible and apical third of the lower mandible black; basal two-thirds of the latter yellow.

The female has a cuneate tail, largely tipped with buffy white, and the under surface rufous.









## PHAËTHORNIS EREMITA, *Gould.*

### Little Hermit.

*Trochilus Brasiliensis*, Temm. Pl. Col. 120. fig. 2 (nec *T. Brasiliensis*, Lath.).

*Trochilus rufigaster*, Less. Hist. des Col., p. 43. pl. 9?

*Phæthornis rufigaster*, Gray and Mitch. Gen. of Birds, *Phæthornis*, sp. 12?

*Phaëthornis Eremita*, Gould in Proc. of Zool. Soc. 1849.

*Little Hermit*, of the collectors in Para.

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THIS species must not be confounded with the *Trochilus pygmæus* of Spix or the *Trochilus rufigaster* of Vieillot; from the former it differs in being of a larger size, in the buff of the under surface being of a lighter and purer hue, in the black mark on the chest being smaller and less conspicuous, and in the more cuneate form of the tail, all the feathers of which are largely tipped and edged with buff; while from Vieillot's bird, if his description and figure be correct, it differs in the two middle tail-feathers being less developed, and in their tips being buff instead of white. Lesson's description of the bird which he has considered to be identical with Vieillot's *T. rufigaster* applies to the present species with the greatest accuracy, but the figure which accompanies the description neither agrees with it nor with any other bird with which I am acquainted; the black marks beneath the eye and on the chest, although so well described, are not indicated, and the feet, which are said to be yellow, are figured of a dark brown. The *T. pygmæus* of Spix, which is so accurately described and figured that it cannot be mistaken for the bird here represented, is a native of the northern parts of Brazil; the *T. rufigaster* is said to be from Cayenne; and the present bird, so far as I am aware, is confined to Southern Brazil; the numerous specimens in my collection are all from the Amazon and Bahia.

The nest, as will be seen, is ingeniously attached with spiders'-webs to the extremity of a leaf of a Dicotyledonous plant, and is composed of various fine silky and cottony vegetable fibres mixed with spider's-web and portions of a fungus (?) resembling wool; in form it is round, deep, cup-shaped, and tapers to a lengthened point at the bottom. The nest figured is in my own collection, and I also possess another containing two eggs, procured by Mr. Hawkswell at Buena Vista in June 1848.

The eggs are two in number, of a pinky white, about seven-sixteenths of an inch in length by about five-sixteenths in breadth.

The male has the bill black, except the basal two-thirds of the lower mandible which is yellow; crown of the head, back of the neck, back and shoulders bronzy green, the green predominating on the latter; stripe over and behind the eye and all the under surface, except a few white feathers on the lower part of the abdomen, deep buff; ear-coverts and a tuft of feathers on the chest black; rump and upper tail-coverts reddish buff; tail bronzy brown with green reflexions, all the feathers tipped with buff, which colour becomes rather paler on the tips of the two centre ones; wings deep purplish brown; outer side of tarsi clothed with short buffy brown feathers; feet and inner part of tarsi yellow; claws dark brown; eyes blackish brown.

Total length,  $3\frac{1}{2}$  inches; bill,  $1\frac{1}{16}$ ; wing,  $1\frac{3}{8}$ ; tail,  $1\frac{1}{2}$ ; tarsus,  $\frac{3}{16}$ .

The female is similar in colour to the male, but is smaller in size.

The figures represent a male and a female of the natural size.









PHAETHORNIS PYGMAEUS

## PHAËTHORNIS PYGMÆUS.

### Pigmy Hermit.

*Trochilus pygmæus*, Spix, Av. Bras., tom. i. p. 78. tab. lxxx. fig. 1.

*Phaëtornis pygmæus*, Bonap. Consp. Gen. Av., p. 68, *Phaëtornis*, sp. 13.

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THIS being the most diminutive species of the genus *Phaëthornis* yet discovered, the term *pygmæus* is a very appropriate name for it. From *P. eremita*, to which it is nearly allied, it may be distinguished by its more slender bill, by its much smaller wing, and by the rounded form and more uniform bronzy colouring of its tail, the extremities of the feathers only being tipped with buff.

The true habitat of this diminutive bird is the southern portions of Brazil. It inhabits in tolerable abundance the province of Rio de Janeiro, but I have not seen it so far to the north as Bahia, a part of the country from whence the *P. eremita* is occasionally sent.

The sexes present the usual differences in size, the female being much smaller than her mate; but no variation whatever is found in their colouring.

The figure of the beautiful nest represented on the accompanying Plate is copied from a drawing sent to me by Mr. Reeves. It will be seen that the interior of this delicate structure is formed of the softest materials,—the wool-like fibres of some flowering plant, sparingly decorated on the outside with thistle-down-like seeds, &c.

Nothing whatever is known of its habits.

Upper surface and wing-coverts greenish bronze, inclining to dark brown on the head; wings purplish brown; tail pale bronzy brown, slightly tipped with buff; lores and ear-coverts black; line above the eye buff; rump and upper tail-coverts deep rust-red; under surface paler rust-red, crossed on the breast with a conspicuous crescent of black; base of the lower mandible fleshy-yellow; the remainder of the bill black; feet yellow.

The Plate represents a male, a female, a nest and eggs, of the natural size.

























